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APSES, CISTERCIAN MONASTERY, CHORIN, GERMANY.

THE BRICKBUILDER

VOL. 17 NO. 8 DEVOTED TO THE INTERESTS OF ARCHITECTURE IN MATERIALS OF CLAY AUGUST 1908

Armories for the Organized Militia—III.

BY LIEUT.-COL. J. HOLLIS WELLS.

(Concluded.)

THERE are three departments which have not as yet been touched on. The Surgical Department may be located on a floor above the colonel's quarters. This department requires not less than three rooms: one, the main office in which the regimental surgeon has his locker, the examining room, in which are the lockers of the assistant surgeons, and the room for the hospital corps. Ample locker and closet space must be laid out for this department and they should also have a toilet room.

The ordnance officers require one room of about three hundred square feet, and last, but not least, the commissary should have plenty of room.

The social side of the National Guard officers' life is not so great but that some consideration should be given to his comfort. The commissariat is his chief delight after his duties are over. The commissary should have a small office and a large reception room, where the entire board of officers may gather. It is not too much to expect that he should have a pantry and small store room with an ice box handy, and, of course, room for other things.

The field music and the band should each have a couple of rooms, located anywhere, the farther away the better.

The furnishing of an armory requires much careful consideration. Nothing but the most substantial of materials should be used. Imitations are expensive, the real goods are cheaper in the long run.

Wood floors should have rugs or carpets in most of the principal rooms. Cork carpet runners are satisfactory in locker rooms.

Desks, tables and chairs should be specially built to match the trim. Elaboration of detail is not necessary, but it is a mistake to stint.

After the armory is built and furnished it requires care, else it soon deteriorates. The state of New York, after much experience, has decided that it pays to keep its armories up, and working under section 177 of the Military Code, no fault can be found with their up-keep. It may perhaps be of interest to quote this section, which reads as follows:

"There shall be allowed for each armory one armorer, and if the armory be heated by steam one engineer; there shall also be allowed for an armory occupied by a regiment, by a battalion not part of a regiment, by a battery of light artillery, by a troop, or by two or more separate batteries or companies one janitor; and the

armorer, the engineer and the janitor thus authorized shall be appointed by the ranking commanding officer of the organization or organizations quartered in the armory. Where a signal corps, troop, battery of light artillery, or the headquarters of a brigade occupies a portion of an armory such troop or battery of light artillery shall also be entitled to an armorer and a janitor, and such signal corps or brigade headquarters shall also be entitled to an armorer, who shall be appointed by its respective commanding officer, and such headquarters and quarters shall be considered an independent armory, upon the approval and certificate of the commanding officer of the brigade within whose district such armory is located, which shall be filed with the disbursing officer of the county in which such armory is located. The armorer shall, under the direction of the officer appointing him, take charge of the armory, arsenal and places of deposit of the regiment, battalion, troop, battery, company, signal corps and brigade headquarters, and of all uniforms, arms, equipments and other property issued under the provisions of this chapter therein deposited, and discharge all duties connected therewith as shall be, from time to time, prescribed by such commanding officer. The special duty of the engineer shall be to take charge of the heating apparatus, and the janitor shall take care of the armory, the cleanliness thereof and of the furniture, fixtures and property therein. To provide for the proper care and cleanliness of armories and arsenals and of the property therein deposited, the commanding officer of a regiment, battalion, not part of a regiment, troop, battery, company, signal corps, or brigade, or the ranking commanding officer, where two or more separate batteries or companies are quartered in an armory, may appoint laborers as follows: for armories or arsenals having ten thousand square feet of floor surface, one laborer, where the floor surface exceeds twenty thousand square feet, two laborers, and for each thirty thousand square feet in excess of twenty thousand, an additional laborer; such computation of square feet, to include all drill-rooms, administration and meeting rooms, drill-sheds, hallways, rifle range and lavatories, but excluding such cellar-rooms, boiler-rooms and store-rooms as are not included in the foregoing classification and excluding armorers' and janitors' quarters. Before any such appointment is made, the necessity for the employment of such laborer or laborers shall be certified by the

commanding officer of the brigade, and such certificates shall be filed in the office of the disbursing officer of the county in which the armory is situated. A certificate of the number of feet of floor surface of each armory in which laborers are appointed shall be made by the engineer of the brigade and approved by the commanding officer of the brigade within whose district such armory is located, and filed in the office of the disbursing officer of the county in which the armory is located. Such persons so appointed shall receive compensation for the time actually and necessarily employed in their duties, to be fixed by the commanding officer appointing such persons as follows: when employed in armories or arsenals located in cities, armorers, janitors and engineers not

to exceed four dollars per day unless the city has a population of less than two hundred thousand, in which case such compensation shall not exceed three dollars per day, and two dollars per day in armories not located in cities; laborers not to exceed two dollars per day, which compensation, as certified to by the commanding officer appointing such persons under the provisions of this section, shall be paid monthly, and shall be a county charge upon the

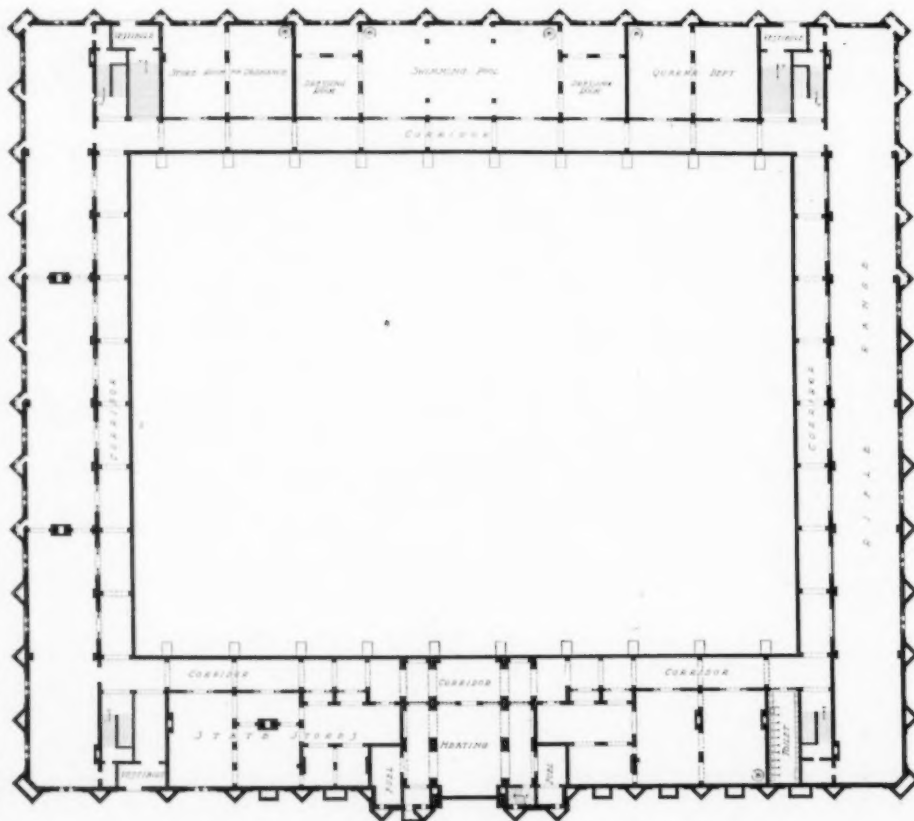
county in which such armory or arsenal is situated, and shall be levied, collected and paid in the same manner as other county charges are levied, collected and paid. A commissioned officer shall not be eligible for appointment to and shall not hold the position of armorer, janitor, engineer or laborer in any arsenal or armory."

STATE ARSENAL AND ARMORY, HARTFORD, CONN.

The building, as its name implies, is to be used for the business offices of the military organization of the state, containing in the central portion of the head house, principally on the first floor, the offices of the adjutant-general and his assistants, the quartermaster-general, pay corps, medical department and pension department. The remainder of the head house and wings is occupied

by the pavilions and equipment rooms of the various companies of the 1st regiment of the state of Connecticut, together with the naval battalion, signal and hospital corps and machine gun crew, the executive offices of the regiment being located on the second floor of the head house over the main entrance, including the rooms for the colonel, field and staff officers, library, meeting rooms, etc. In the basement is located the gymnasium for the use of the regiment, with necessary toilet, wash and shower rooms for both privates and officers with a plunge tank placed between the two series of rooms. There are also quarters for the band, the armorer, and large squad drill room, which would also be used on public occasions, such as the inauguration ball in honor of the

governor, as a supper room, with necessary kitchen and pantry store-rooms adjacent. The drill shed is placed on the first floor, the basement under same being reserved for storage rooms of the arsenal department of the state and the various companies of the regiment. A gun repair and reloading room is placed in the subbasement in conjunction with the firing room and ranges for both rifle and pistol practice. Quarters for both the janitor of building and armorer



BASEMENT PLAN, FIFTH REGIMENT ARMORY, BALTIMORE.

Wyatt & Nolting, Architects.

of the arsenal stores are placed in the roof pavilions. The drill shed, which is the largest in the state, is 185 feet wide by 267 feet long, with an observation gallery reached from second floor at the south end with returns on the side opposite the head house wings. Each company has a parlor on the first floor with private stair from each to the equipment room on the second floor above and a tier of three small company officers' rooms reached from the landings of these stairs. The building has concrete foundations which, owing to the nature of the soil, were very complicated and deep, particularly at the south end. The roof pavilions are covered with slate but the drill shed and the flat decks of the head house are covered with slag roof. The drill shed is separated from the head house by metal-covered doors and trim,

but the trim throughout the head house is quartered oak with cement floors in all public passages and rooms, with wood floors in offices and parlors. The floor of the drill shed is of maple.

ARMORY FOR SECOND BATTALION, NAVAL MILITIA,
BROOKLYN.

The armory for the Second Battalion, Naval Militia, is situated at Fifty-second Street and New York Bay in the Borough of Brooklyn. It was built by the city of New York for the occupancy of the Second Battalion, Naval Militia, of New York state. The building has been completed and occupied by the battalion only within the last few months. The battalion is comprised of six divisions somewhat similar in character and size to the companies of a regiment, each division having a distinct individuality.

The appropriation for the building being moderate and the required accommodation and drill space being large, the most rigid economy was necessary throughout. For this reason the building has been made a practical working armory with the result that, in proportion to the accommodations furnished, it has cost less than

any armory built in New York in recent years. The equipment, however, is complete and substantial.

The armory consists of an administration portion, which is concentrated at one end of the drill shed. The space under the drill floor is only partially excavated, and it is used for storage rooms, magazine, boiler room and rifle and revolver ranges. The drill floor is one of the largest in the city. Its construction is of the mill or slow-burning type. The administration portion of the building is constructed fireproof. It contains a meeting and locker rooms for each of the divisions of the battalion and for its band, a general ward or meeting room and public and private offices for the different officers of the battalion.

The exterior of the building is of common brick with

decorative features of terra cotta, and an effort has been made in the design to avoid useless and archaic features and yet give the building a distinctly military character.

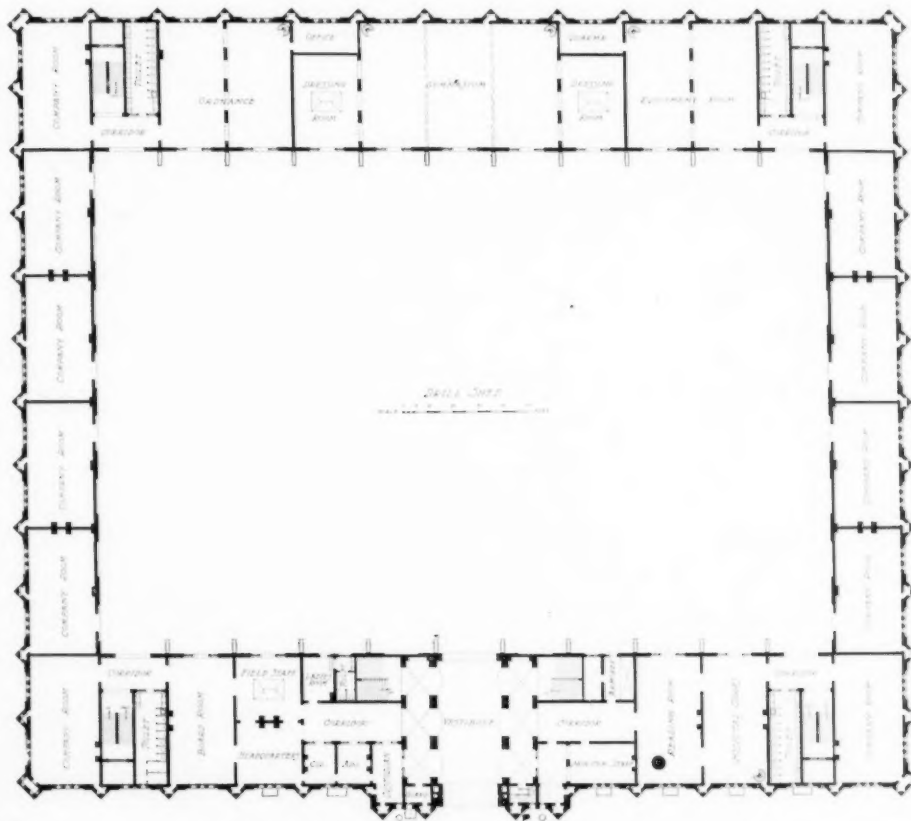
An interesting feature of the drill shed is its equipment with an officers' bridge, two military masts with semaphores and other appliances for signalling. Another interesting feature, and one which received special commendation from the commission recently appointed by Governor Hughes to investigate the armories of the state, has been the standardization of the decorations in the division rooms and other meeting rooms in the building. These have been finished throughout with wainscots to the ceiling of oak planks and with mural paintings in the ward rooms showing the development of the warship

from the earliest times; and in the other rooms depicting the most important events in the history of the American Navy.

The paintings throughout are by Ralph T. Willis and are of very high merit,—indeed, they are one of the most interesting series of mural paintings in this country.

FIFTH
REGIMENT
ARMORY,
BALTIMORE.

The building occupies a plat approximately 310 x 360 feet, open on all sides,

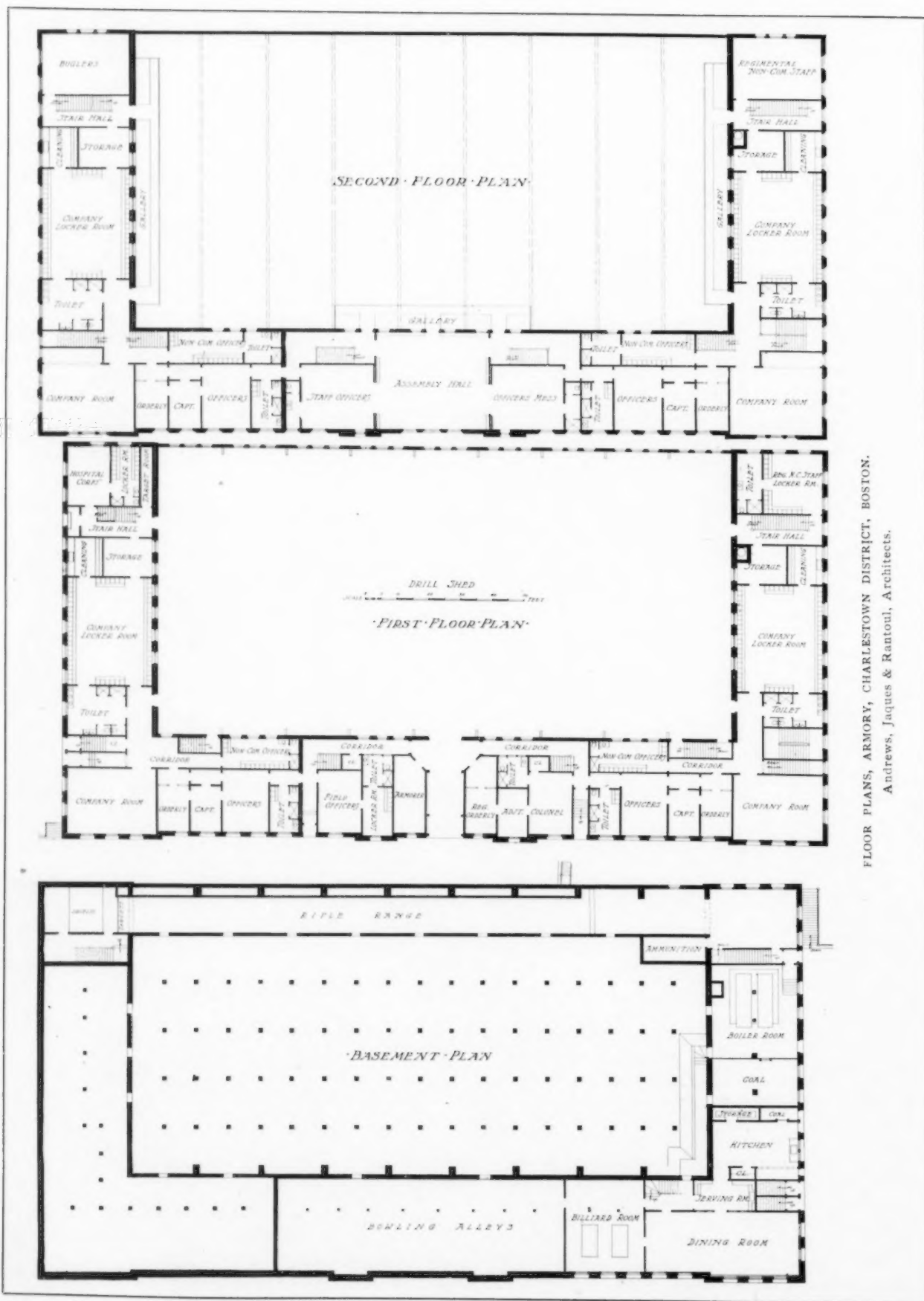


FIRST FLOOR PLAN, FIFTH REGIMENT ARMORY, BALTIMORE.
Wyatt & Nolting, Architects.

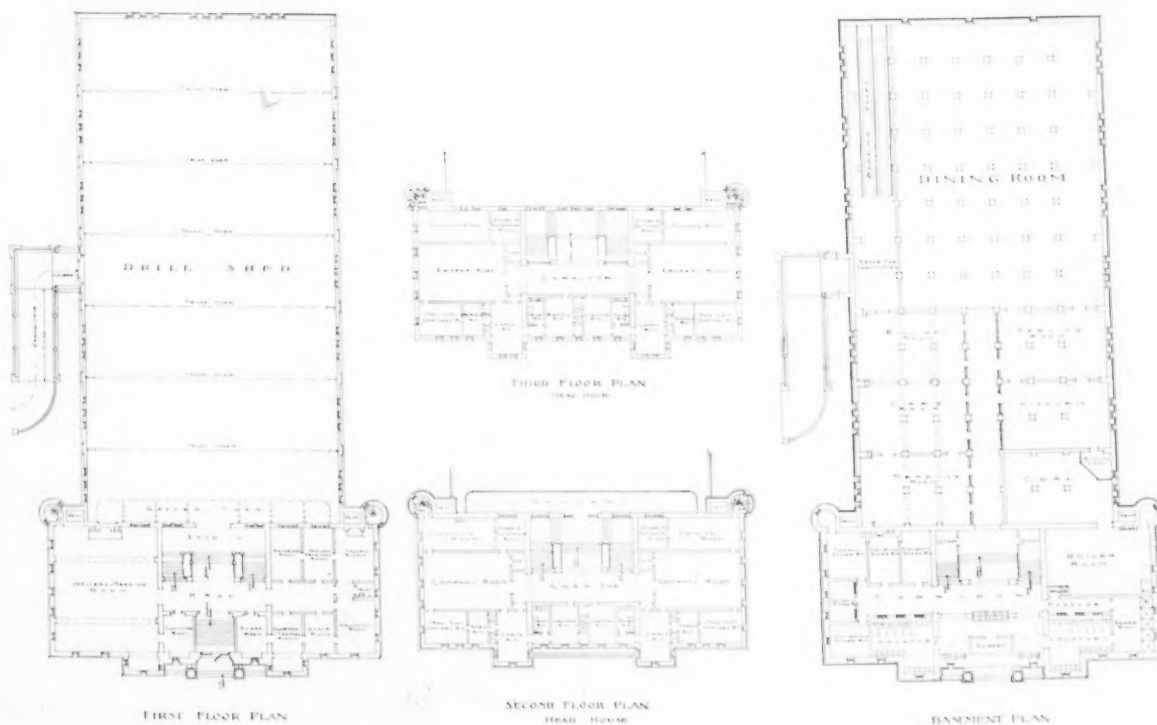
the main entrance forming the central feature on one of the long fronts.

The drill hall, 200 x 300 feet, is central to the entire building, and is surrounded on all four sides by smaller rooms. The various headquarter offices, reading room, board room and room for the hospital corps are in the front, and are approached both from the drill hall and from the entrance vestibule; the company's rooms, twelve in number, are at either end, completely occupying the two sides of the building, the rooms are all entered from the drill hall direct; the space between the drill hall and the rear of the building is occupied by the gymnasium, dressing room, rooms for the quartermaster and ordnance.

There is no cellar under the drill hall and the



FLOOR PLANS, ARMORY, CHARLESTOWN DISTRICT, BOSTON.
 Andrews, Jaques & Rantoul, Architects.



ARMORY FOR THE CITY OF CAMBRIDGE, MASS.
Hartwell, Richardson & Driver, Architects.

entrance side; the space under the rear and the side rooms is used as rifle range (three hundred feet long), general heavy storage for quartermaster's department, bowling alleys and billiard rooms, dining-room, kitchen, etc., for the men, ambulance stable and the mechanical plant.

The drill hall is 106 feet high to the center of the roof, with a wide gallery on the two long sides.

In addition to the main entrance there are three exits from the main and basement floors.

The stairs are placed at the entrance and near the four corners of the building. The general toilets are placed near the four corners.

The contents in cubical feet, about 6,000,000.

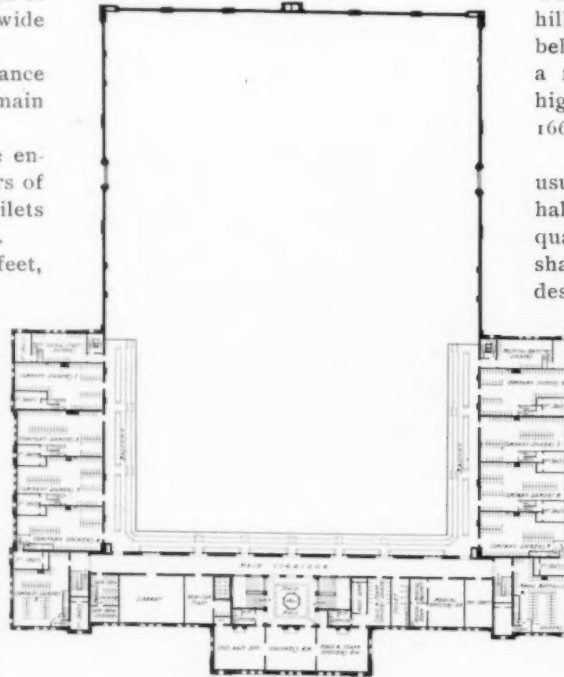
Cost, including architects' fees, \$300,000, or about five cents per cubic foot. The building is not fireproof.

ARMORY FOR THE SECOND BATTERY, NATIONAL GUARD OF NEW YORK, N. Y.

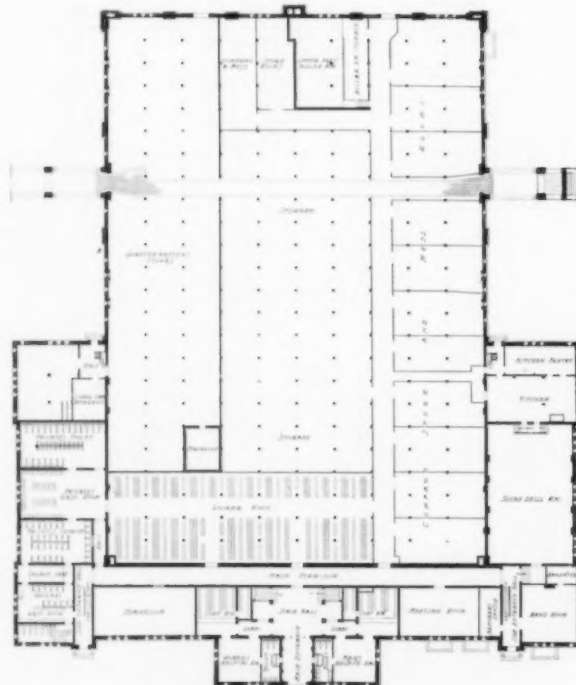
Two years ago, as the result of a competition among six New York firms, Charles C. Haight was selected as architect of the Second Battery Armory,

National Guard of New York. The building is to be in the Bronx to the east of the Third Avenue Elevated. Here 166th Street is deflected by the spur of a rocky hill and this is the site, an irregularly sloping rectangle approximately 200 by 300 feet. Franklin Avenue is the western boundary, and beyond, the hill drops off abruptly to a street below like a *glacis* at the foot of a fortress. To the south on the higher level is a continuation of 166th Street.

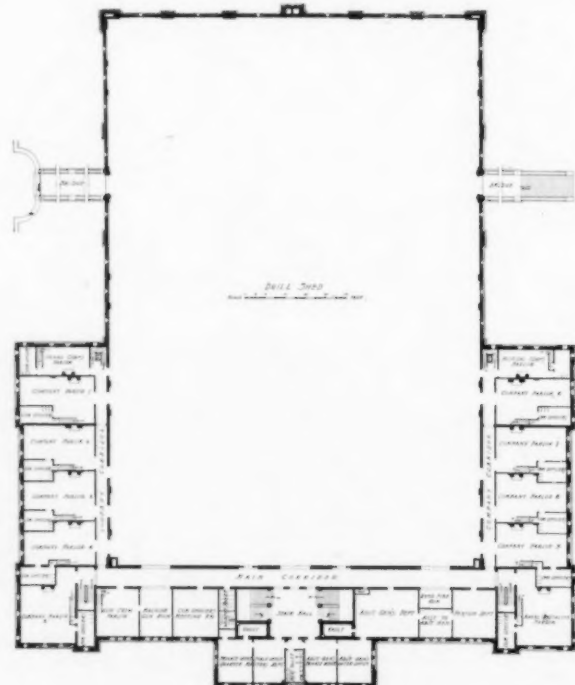
The problem demanded an unusually compact plan. The drill hall alone was to be more than three-quarters of the plot in area. In shape, length rather than width was desirable, so a hall the extreme length of the ground seemed best, and the narrow strip left at the side suited the numerous smaller rooms for administration and receptions, for officers and men with their showers and lockers, for meeting rooms and so forth, with no shaft required to light them; but it proved awkward in the case of the wider squad room and gymnasium on the third floor, for it meant the superposition of rooms 38 feet in width on



SECOND FLOOR PLAN.



BASEMENT PLAN.



FIRST FLOOR PLAN.

STATE ARSENAL AND ARMORY, HARTFORD, CONN.
Benjamin Wistar Morris, Architect.

those of only 30. Accordingly the floor was continued beyond the inner wall as a cantilever, so that the rooms project eight feet over the spring of the drill hall roof. Furthermore, the area of the plot was insufficient for stables and gun room on the drill-hall level. They were placed below it and joined to it by a passageway of easy slope, permitting guns and caissons to be limbered below and driven up in proper formation.

As it passes the armory, upper 166th Street rises twelve feet and this determined the levels of drill hall and stables. From the upper level an archway opens on the drill hall and from the lower another leads to the stables, the two floors being each entirely independent as regards entrances or exits; the horses may be taken outdoors for exercise without entering the drill hall, nor need any service pass through it, and when drills are not taking place it may be closed. Then, too, on account of the sloping street and a shallow area part way along them, the stables receive the necessary sunlight.

In æsthetic expression the armory is a departure from the "school" type in the complete elimination of heavy cornices and quoins and the suppression of the high glass roof. The site suggested the effectiveness of vertical masses, and these with a carefully studied sky-line gave the expression desired. Wide piers where strength was needed and a multiplicity of windows in the curtain walls between, the armory became an idealized type of "mill construction," with the vital difference that here the piers did not merge into a flat cornice but rose above the curtain walls, a Gothic princi-

ple evident in the city walls of Aigues-Mortes and Carcassonne or in Warwick, Dover and other English castles. The silhouette against the sky, prominent through the building's high situation, has been perhaps the most carefully studied element of the façade, and on it the success of the exterior in a great measure depends. In short, its merit is in the composition of its masses of dark red brick with little or no ornament and a sparing use of sandstone.

The programme required a sighting range and signal

station for communication with other armories, and to provide it, the southwest corner closing the axis of lower 166th Street has been developed as a tower overlooking the city to the west and south. Lower 166th Street ends at the foot in a formal flight of steps connecting with the upper level, and since this is the natural approach, the corner tower became the principal entrance. A high vaulted hall leads to the "staircase of honor," and this past the privates' to the officers' quarters and reception rooms, the reviewing stand and a spectators' gallery four seats deep surrounding the drill hall, all on the second floor level. The several entrances and stairways



DETAIL OF MAIN ENTRANCE.

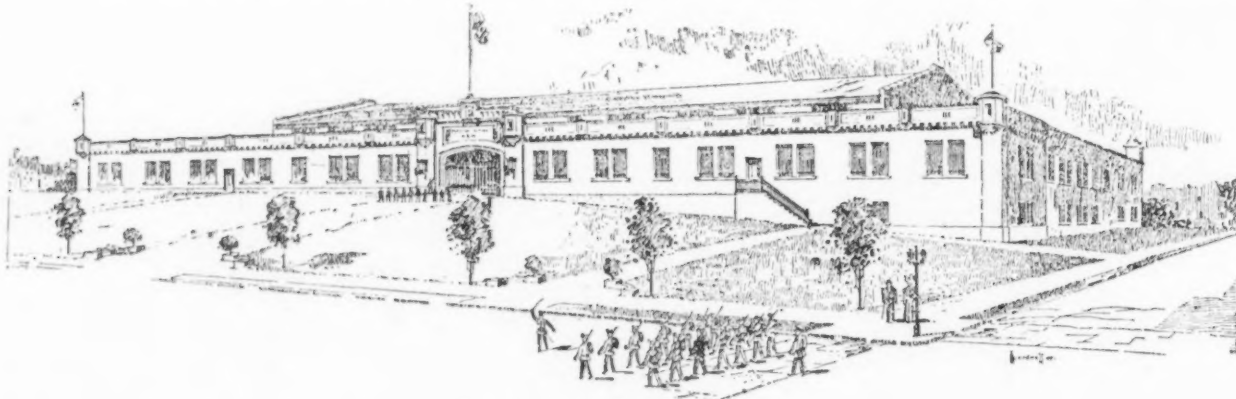
ARMORY FOR TROOP C, BEDFORD AVENUE, BROOKLYN.
Pilcher, Thomas & Tachau, Architects.

for the public have been so arranged that a visitor's first sight of the riding hall is from the gallery. It is a vast hall, nearly a hundred yards long, with iron roof trusses one hundred and sixty-seven feet in span. The gallery is hung from the trusses by iron rods, so there are no columns to interrupt the riding hall below. The roof is of concrete plates with center skylights; the walls of exposed brick; four staircases empty the gallery and they

are so arranged that in case of panic there can be no possible confusion between spectators and the horses and guns.

The third floor is taken up by a general reception

and services necessary for receptions and battery reunions. The upper stories of the tower are given up to additional officers' rooms, janitors' rooms and so forth; the basement contains, besides the gun room and stables,

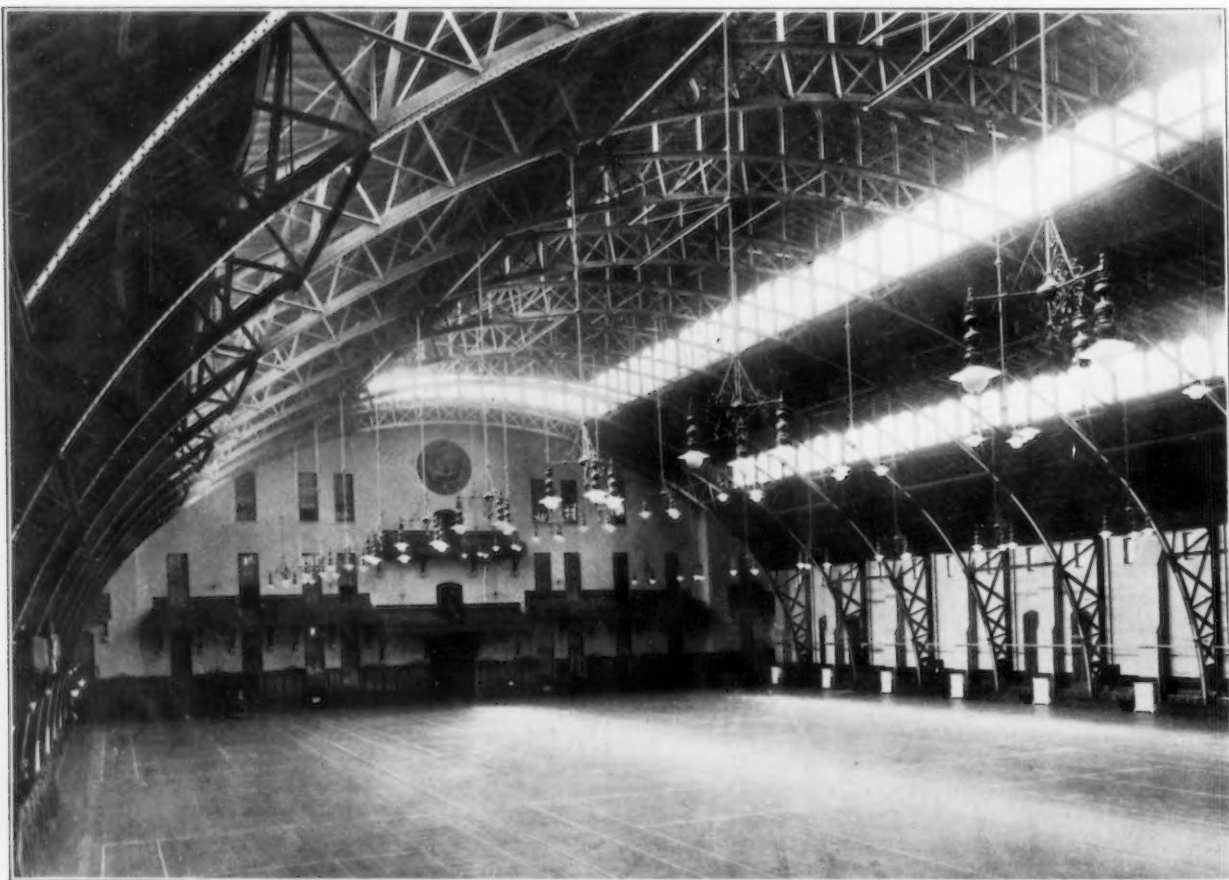


FIRST REGIMENT ARMORY, ST. LOUIS.
Eames & Young, Architects.

room, a squad room and gymnasium. Here are to take place the chief social functions. Wide doorways connect the rooms so they may be thrown together en suite, and because of the high ground the windows overlook surrounding buildings. At the back are a small kitchen

the various store rooms, services and a seventy-five-yard firing range, fitted up for both gun and small-arm fire.

The New York Armory Board appropriated \$450,000 for the armory and the lowest estimate was within the appropriation.



DRILL HALL, SEVENTH REGIMENT ARMORY, NEW YORK CITY.
Clinton & Russell, Architects.

The American Theater—IX.

THE STAGE.

BY CLARENCE H. BLACKALL.

THE real mystery of the theater lies behind the curtain. There is the enchanted region which is so alluring to the spectator and which holds so closely those who have fallen under its sway. There is fascination in the mere thought of going behind the scenes, and to the uninitiated the processes by which seeming effects are evolved have a very complicated appearance. As a matter of fact, the stage of the American theater is an extremely simple affair. The beauty of it is that such a variety of effects are obtained so easily and with what is, after all, so very little machinery. The stages of theaters abroad are, by comparison with ours, very complicated, and in other countries a mass of machinery is employed which we find entirely unnecessary, and in fact a detriment rather than a help, as will be seen by comparisons which we will make later.

There are a few terms used in describing stage fitting which require some explanation. In the old days, when traveling companies and long runs were unknown, a prompter was stationed in the first entrance about in the position now occupied by the switchboard. Hence that side of the stage was designated "prompt side," and the opposite side of the stage was called the "O. P." or opposite prompt side. The prompter, as a feature in American dramatics, has practically disappeared, being replaced only in part by the stage manager, who attends to many other things besides cues, and is not infrequently given a part in the cast, but "prompt" and "O. P." still remain as designations, the prompt side being the side on which the switchboard is located, — usually the right. In some theaters the switchboard is on the left of the stage and there seems to be an uncertainty in that case just how to apply the terms "P." and "O. P." In the French theaters there will be found still a protuberance in the center of the stage, in front of the curtain line, resembling a huge cockle shell with the back towards the audience. Towards the curtain it reveals a stand on which is placed a copy in large print of the music or the part that is being played and the pages are turned by an unseen attendant from below. Sometimes the prompter, or *souffleur*, reads the parts in

an audible whisper and foreign artists seem to find this personage quite indispensable. A *souffleur's* box has to be rigged up quite frequently for grand opera and Sarah Bernhardt's companies always have insisted on it, but it finds scant favor here.

"Right" and "left" of stage refer to right or left of the actors as they face the audience. "Up stage" means the depth measured toward the rear from the curtain line. The apron is the portion of stage beyond the front of the curtain, often cut away underneath for the orchestra. The distance measured up stage is divided arbitrarily, as previously explained, into entrances, spaced about seven feet on centers. The first entrance

is formed by what are called the "tormentors," which are flat pieces of scenery braced up from the floor and serving to mask in and diminish the total width of the stage opening. Draperies suspended from above corresponding to the tormentors are called the "tormentor draperies." A "border" is a row of lights suspended from the gridiron in front of each entrance, and the term is also applied to a piece of scenery hung from above to simulate a sky line. A "drop" is a piece of scenery forming the back of the scene and suspended from above. A "flat" is a piece of scenery mounted on a light framework of wood held by braces screwed into the stage floor.

The "sink lines" are the lines of the longitudinal girders each side limiting the movable portions of the stage floor, including

a width across stage of one or two feet each side more than the curtain opening. The sides of stage floor beyond the sink lines are called the wings, sometimes also designated as the off-stage space. The excellent German scheme of having an extension of the stage in rear is seldom possible in this country on account of the limited area of land usually available, but when circumstances will permit, it is highly desirable. The extension should be as wide and high as the curtain opening, can be used for storage of properties and scenery and for lighting effects, and for lack of a suitable English equivalent is commonly designated by its German name, "Hinter Buhne."

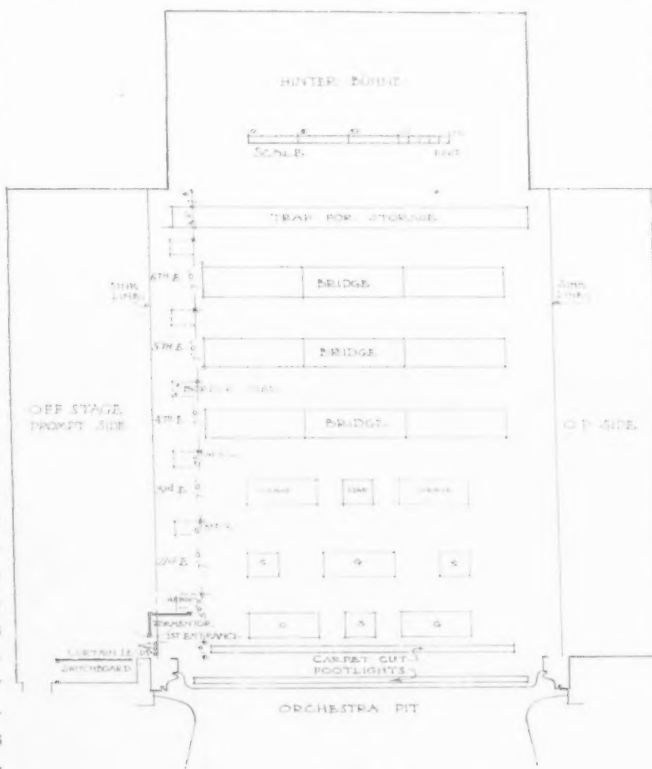


FIG. 1. TYPICAL STAGE PLAN.

"Cuts" are slots across stage, rarely used with us. A carpet cut about six inches across is, however, desirable, just inside the curtain line, permitting a carpet to be drawn up over the stage floor from below and held taut across the front by closing the hinged cover into the carpet. Another cut at the extreme rear is desirable, two feet across and the full width between sink lines, to permit of lowering scenery and drops for storage under the stage.

"Traps" are openings in the stage floor through which a person can be raised or lowered out of sight. "Bridges" are sections of the floor of a stage so arranged that they can be raised to varying levels. "Arbors" are vertical poles which work in transverse slots running across the stage, these arbors sometimes being on small trucks under the stage. To these arbors isolated pieces of scenery can be attached. The only advantage of these is that for a transformation the arbor and the scenery to which it is attached can be slid off at the sides without the operator being seen.

Up to a comparatively few years ago all flats and side scenery were made of uniform height, sliding on trucks at the bottom and in grooves at the top, like an ordinary sliding door. These grooves, called "*coulisses*" on the French stage, were arranged in groups under each border, so that the flats enclosed the entrances. Such construction is still in use in some of the older vaudeville houses, and occasionally for the tormentors, but the grooves constitute a clumsy device at best and our scenery is now either built up and lashed together in box form, or braced to the floor with extension braces.

The stage in European theaters is habitually sloped up towards the rear at the rate of one-half inch to the foot. As a rule our stages are built level and the few exceptions have not been satisfactory. The galleries on each side of the stage from which the scenery is operated are called "fly galleries." The light lattice floor over the stage to which are attached the running blocks for the scenery ropes is called the "gridiron," the space above it to the under side of the roof being termed the "rigging loft." The bridge connecting the two fly galleries across the rear of the stage is called the "paint

bridge." It is often omitted in theaters, as its sole purpose is to serve the scene painter, who works with his canvas suspended on a movable frame against the rear wall, hoisting and lowering the whole scene as he needs to reach any portion thereof.

The size of the stage is governed a good deal by the character of the house, but it may be said in general that while many stages are too small, none of them are too deep and few of them are too wide. For vaudeville or for light dramatic performances a stage thirty feet deep from the curtain line could be used, but the ordinary theater to-day is made as near fifty feet as the circumstances will allow and should never be less than forty in depth.

The usual custom is for all of the scenery for the given production to be kept on the stage as convenient for use as possible. The drops, borders, ceiling pieces and even some flats are suspended from the gridiron, but there is always a lot of scenery which has to be stood on edge against the wall surrounding the stage. Consequently when the total width is more than ninety feet the stage hands have to do a good deal of walking to set and strike a scene and a greater width than that is not desirable in any theater, except as it may be planned specially for very large and cumbersome performances.

The width of the curtain opening is to a certain extent a function of the total available width of the auditorium, but most stage managers object to excessive widths, and forty feet is about a fair average for a first-class combination house.

For vaudeville or for stock houses presenting light dramas or comedies it is too much. The height of the curtain opening varies from thirty feet up. It was formerly quite the custom to mask this opening by a fixed drapery hung outside of the curtain, but of late years the custom has been to lift the curtain entirely free of the whole opening, showing no draperies at all except the tormentor draperies. This means that the curtain must be lifted the whole height of the opening, and the height of this opening is, of course, a factor of the design of the auditorium, but is usually not less than thirty feet. The tendency of American practice is to make it too high.

The portion of stage floor between the sink lines must

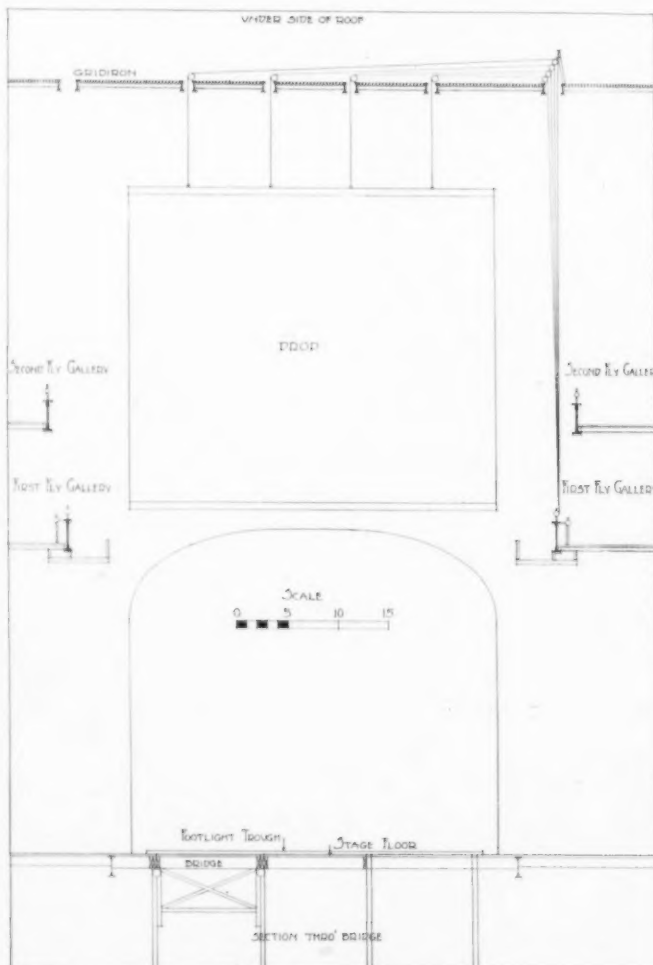


FIG. 2. TYPICAL STAGE CROSS SECTION.

be so arranged that a trap or opening of any sort can be cut at short notice in any entrance. The building laws of most of our cities allow this construction to be entirely of wood. The illustration (Fig. 4) shows a typical arrangement. The beams are of hard pine, mill planed, continuous for the whole span between sink lines, and braced by 3 inch by 6 inch wooden uprights at three points under each beam. The typical stage plan shows an arrangement of traps which answers the usual requirements, namely, three in each of the first three entrances. The square openings are called "star traps," the oblong ones "grave traps," and for each the construction consists of a movable platform much like an ordinary dumb waiter, sliding up in four corner guides, counter-weighted, and hoisted by ropes attached to the bottom of the frame and running over wheels at top of the guides. The stage floor over the trap is cleated together, resting on runs on the sides of the floor beams. By dropping the out-board ends of the runs the flooring over trap can be slid to one side under the adjoining stage floor, allowing the trap to ascend flush with the floor. It is also usual to fit up the rear entrances with bridges, three in width to each entrance. These are simply sections of the floor resting on framework which can slide up or down in guides below the stage and can be set and held at any desired height or depth, or can be set on a slope sideways. These are used as a ground for stairways, upper stories, mountains, pits, etc.

It is perfectly possible to build the stage entirely of iron, and the greater ease with which the wooden beams can be shifted or cut is not in usual practice of very great advantage, as the bridges are fixtures in any case and are better constructed if of iron, and really very few plays or operas are produced in these days requiring set traps. In vaudeville houses, stages are very commonly framed like any ordinary floor, without reference to any possible traps or bridges. The wearing floor in all stages is a single thickness of one and three-eighths-inch matched rift hard pine.

Most of the foreign theaters and a few of the American ones have a very deep space under the stage, often in several tiers. It is so much simpler and easier to raise scenery than it is to lower it that the excessive under stage is but little used and a depth of more than ten feet is a detriment rather than a help. The best use for the

under stage space is for storage and for properties. The stage of the Stuyvesant Theater, New York, has a large elevator or lift in the center. While a scene is being struck some of the stage hands collect all the properties on the elevator, drop with them to the under stage, exchange them for the properties of the next act and are back with the latter on the stage before the new scenery is set, thus greatly reducing the confusion on the stage and saving considerable time. In a play like Julius Caesar the properties or movable accessories are quite formidable as compared to the mere scenery, and every

foot of space under the stage could be utilized. Ordinarily the space under the stage is only a rubbish hole.

The first tier of fly galleries on each side is set up sufficiently from the stage to give a height of at least 28 feet in the clear underneath. The distance between fly galleries is governed by the width of the widest back drop that is likely to be used. In practice it is well to make this distance 52 feet as a minimum, depending entirely of course upon the kind of house. It is usual in American theaters to have only two tiers of fly galleries, the second one often being set back one foot farther from the center than the first tier so as to allow for play of ropes coming down from above. It is a good idea, however, when practicable, to add a third fly gallery close to the under side of the gridiron for use in special emergencies in shifting the ropes. The front railing of the fly gallery is formed by what is termed the "pin rail." This is generally made with a double row of heavy steel piping, in which are fitted iron belaying pins to which the ropes are hitched. The detail (Fig. 5) shows a construction for this purpose. The working fly gallery is usually on the O. P. side, which is also the side from which the curtain

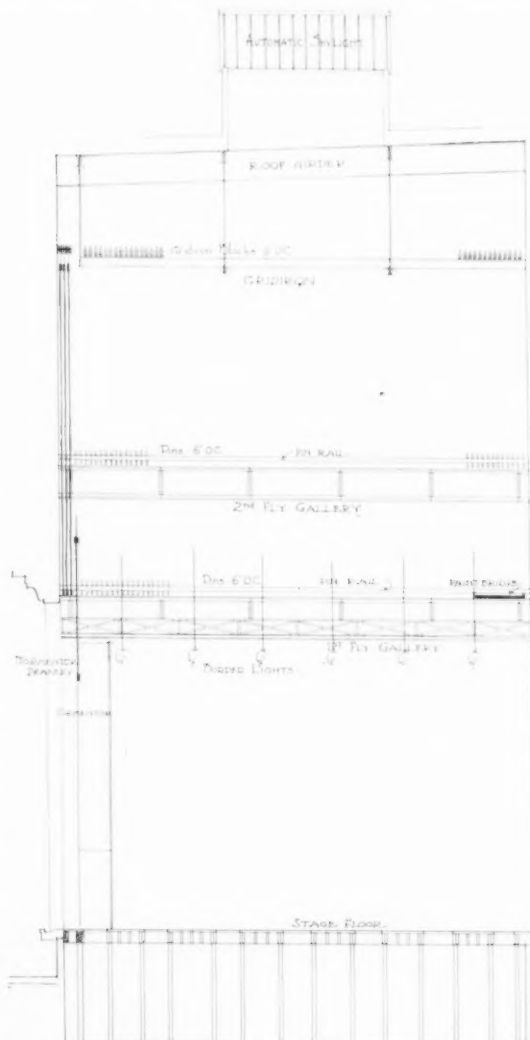


FIG. 3. TYPICAL STAGE, LONGITUDINAL SECTION.

is operated. This is to enable the fly men to be able to watch the stage manager on the prompt side and to receive signals from him. As will be seen later, nearly all the leading ropes are carried down to one side and the rail has to support the entire weight of all the scenery, amounting in some instances to fifty or sixty tons. The strain is all upward and consequently the front of the rail has to be very heavily trussed.

It is an excellent scheme, where practicable, to set back the pin rail on the fly gallery sufficiently to allow a space not less than two and one-half feet outside, pro-

tected in turn by a light guard rail, from which a spot light can be operated, sky borders attached, panoramas carried around and entangled scenery readily reached by poles and straightened out. The width of the fly gallery need only be enough to work the ropes, say eight or ten feet.

The opposite fly galleries of the first tier are connected by the paint bridge, which is supported from the pin rail truss and is usually made so that in an emergency it can be entirely removed without any serious difficulty. It is set off one foot from the rear wall and has a guard rail only on the side towards the curtain. This paint bridge is not required to be very strong but should be able to support a center load of not less than two tons. The paint bridge should be not less than five feet wide. It can be set up, if desired, so that the floor is on a level with the pin rail as it is better to extend the pin rail clear through to the rear wall and not cut it off to give access to the paint bridge.

The drops, borders, border lights, panoramas, etc., are all hung from the gridiron. The illustration (Fig. 2)

will make clear the manner in which the scenery is usually supported. Each scene is attached to a wooden batten or strip about four inches wide to which are tied four $\frac{3}{4}$ -inch manila ropes. Each rope is led up to the gridiron,

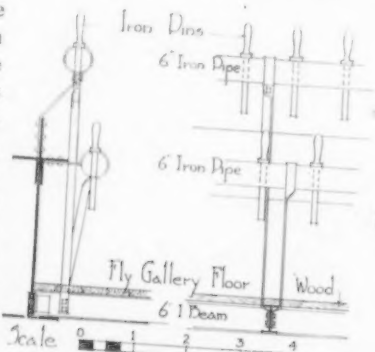


FIG. 5. DETAIL OF PIN RAIL.

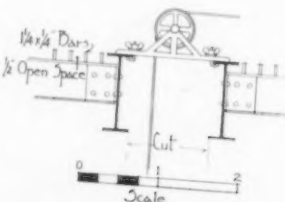


FIG. 6. DETAIL OF GRIDIRON BLOCK.

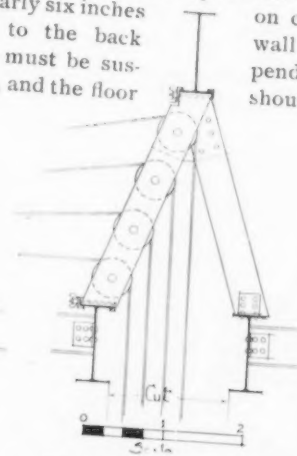


FIG. 7. DETAIL OF HEAD BLOCKS.

passes over a pulley across to a standing block on the side (Fig. 7) from whence all the four ropes for each scene are led together down to the pin rail and attached to a single belaying pin. When the ropes are not in use the ends are brought together, tied to a bag weighted with sand and hoisted out of the way. This is the usual attachment. A better method is to have each set of ropes permanently fastened to a long $1\frac{1}{2}$ -inch iron pipe batten and lash the scenery battens to this piping. Of course for very wide scenes as many as six or seven supporting ropes might be needed and on the other hand, for small vaudeville stages three is sufficient.

The gridiron is constructed with longitudinal slots corresponding to the lines of rigging. The slots (Fig. 6) are formed with I beams spaced ten inches apart, to which are clamped iron or wooden blocks spaced regularly six inches apart line to the back of the gridiron must be suspended from the roof should be of lattice work or grating about two inches open, so that extra ropes can be dropped through the gridiron anywhere. Sometimes a slat floor of wood is used over light steel beams, but as the upper portion of stage has the greatest fire hazard, wood is not desirable.

THE historic plan of Washington which it is generally supposed Major L'Enfant left to posterity should not be laid wholly to the credit of that French Engineer. In a recently published "Life of Andrew Ellicott," who was also a major of Washington's staff, the plan of the city is given as Major Ellicott's best known work. Ellicott succeeded L'Enfant in the Washington work and carried out his own plans with General Washington's commendation. The location of the Capitol and the White House is conceded to have been determined by L'Enfant; but otherwise the share of the two majors in the details of the city plan will always remain somewhat in doubt.

From a letter dated March 23, 1802, from three later commissioners to Mr. Dennis, chairman of a committee of Congress, it is learned: "Major L'Enfant's plan of the city was sent to the House of Representatives on December 13, 1791, by President Washington for the information of the house and afterward withdrawn. Many alterations were made therefrom by Major Ellicott with the approbation of the President and under his authority. All the appropriations (except at the Capitol and the President's House) were struck out and the plan thus altered sent to the engraver . . . being made partly from L'Enfant's draught and partly from material possessed by Ellicott."

STANDARD ARCHITECTURAL BOOKS—II.
HISTORICAL MATERIAL BY PLACE, PERIOD AND STYLE.

PREHELLENIC ANTIQUITY.

GEORGES PERROT, Professor in the Faculty of Letters, Paris, member of the Institute; and Charles Chipiez. *Histoire de l'Art dans l'Antiquité*; translated in the following series: *A History of Art in Ancient Egypt*, translated and edited by Walter Armstrong, B. A., 1883; 2 vol. *A History of Ancient Art in Chaldea and Assyria*, translated by Walter Armstrong, 1884; 2 vol. *A History of Ancient Art in Phœnicia and its Dependencies*, translated by Walter Armstrong, 1885; 2 vol. *A History of Ancient Art in Persia*, translator not given, 1892; 1 vol. *A History of Ancient Art in Sardinia, Judea, Syria and Asia Minor*, translated by I. Gonino, 1892; 2 vol. *A History of Ancient Art in Primitive Greece*, translated by I. Gonino, 1894; London, Chapman & Hall; New York, A. C. Armstrong, each volume, 4to (.269 x .185 x .026), price 21 shillings. The "Histoire de l'Art" of Perrot and Chipiez is quite general: but as pre-hellenic art is mainly recovered by excavation, and therefore largely architectural, the book may be relied upon to give a careful discussion of the architectural development of each country studied. In the class of libraries to which this list is recommended, Perrot and Chipiez will cover sufficiently all early historic civilizations except that of Egypt, for which special recommendations are made. It will be better, of course, to buy the original French work if this may be used to advantage. If not, the English translation listed is a good substitute.

James Henry Breasted, Ph. D.; Professor of Egyptology and Oriental History in the University of Chicago, Director of Haskell Oriental Museum, Director of the Egyptian expedition of the University of Chicago. *A History of Egypt from the Earliest Times to the Persian Conquest*. New York, Charles Scribner's Sons, 1905; 8vo (.245 x .175 x .05), 29 + 634 p., frontispiece, 200 ill., pl., maps; cloth, \$5.00.

In many libraries Professor Breasted's book will give as much information about Egypt as may be required with unusual definiteness. It is not often that any manual leaves so clear an impression upon the mind. The half-tone illustrations develop the most attractive qualities of Egyptian art.

François-August Choisy, *L'art de bâtir chez les Égyptiens*. Paris, Édouard Rouveyre, 1904; 4to (.28 x .19 x .025), 4 + 155 p., 106 ill.; 20 francs, unbound.

The monograph by Choisy on Egyptian architecture is developed on the same lines as the chapter on this subject in his "Histoire de l'Architecture" already described; dealing entirely with principles of design and construction. It supplements Breasted's book perfectly.

CLASSIC ANTIQUITY.

William J. Anderson (b. 1865, d. 1900), Director of the Architectural Department of the Glasgow School of Art; and R. Phené Spiers, F. S. A., F. R. I. B. A. *The Architecture of Greece and Rome, a sketch of its Historical Development*. Second ed. revised and enlarged. London, Batsford; New York, Scribner's, 1907; 8vo (.24 x .253 x .045), 382 p., ill., pl.; cloth, 18 shillings.

There has been an abundance of material on classic

architecture; but until the appearance of this book it was either crowded into general works or extended in special monographs. This manual does very well the preliminary work of clearing ground and presents that large general view which is the best introduction to any subject.

Marie-Désiré-Hector-Jean-Baptiste d'Espouy, Professor at the École des Beaux-Arts, Paris. *Fragments d'Architecture antique d'après les relevés et restaurations des anciens pensionnaires de l'Académie de France à Rome*. Paris, Charles Schmid; without date (1890-1905); fol. (.47 x .325 x .04), 2 vol., 200 pl.; 300 francs, unbound.

Every year the Institute awards to some young French architect the Grand Prix de Rome in Architecture, which pays the expenses of further education in classic countries for four years. During the first three years the recipient of the prize is obliged to send for exhibition in Paris careful drawings and restorations of some monumental fragment. These "Envois de Rome" are stored at the library of the École des Beaux-Arts. Prof. d'Espouy has undertaken to select from this mass and to publish those drawings which are not only the finest in themselves but which also illustrate most perfectly the development of classic architecture. The renderings are by the best French draughtsmen.

Francis Cranmer Penrose (b. 1817, d. 1903), D. C. L., F. R. S., F. R. I. B. A., F. R. A. S., F. S. A., President R. I. B. A., 1894-1895. *Investigation of the Principles of Athenian Architecture*, as the result of a recent survey conducted chiefly with reference to the Optical Refinements exhibited in the construction of ancient buildings at Athens, illustrated by numerous engravings, published by the Society of Dilettanti. New ed. London and New York, Macmillan Co., 1888; fol. (.545 x .38 x .035) 10 + 101 p., ill., 42 pl.; 117 shillings.

Penrose's book on Athenian architecture is not beyond the reach of a modest collection, and should certainly be secured by any one who is interested not only in architecture but also in good books. It is probably the most masterly architectural investigation yet published. Little has been added to our knowledge of the Parthenon since Penrose left it.

George Dennis. *Cities and Cemeteries of Etruria*. Revised ed. London, Murray, 1878; 8vo (.235 x .165 x .05), 2 vol., ill., pl., maps; cloth, 42 shillings. Reprinted; London, Dent (Every-Man's Library), 1907; 2 vols., 12mo; cloth, 2 shillings.

The Architecture of Etruria derives its chief importance from the fact that it explains many leading characteristics of the great Roman style which followed and is partly based upon it. Dennis is the standard English work on the subject.

Auguste Mau, Member of the Archaeological Institute in Rome. *Pompeii, Its Life and Art*, translated by Francis W. Kelsey, University of Michigan, with numerous illustrations from original drawings and photographs. New ed. revised and corrected. New York and London, The Macmillan Co., 1902; 8vo (.22 x .15 x .045), 25 + 557 + 2 p., frontispiece, ill., pl., plans; cloth, \$2 50 net.

The most intimate impression we receive of Roman art, and of Greek, too, for that matter, comes from the excavations of Pompeii, which are considered, quite sufficiently for our purpose, in this excellent book.

Rodolfo Amadeo Lanciani, Commendatore, Professor of Ancient Topography, University of Rome. *Ruins and Excavations of Ancient Rome*; a companion book for students and travellers. Boston, Houghton, Mifflin & Co., 1897; 8 vo (.2 x .14 x .045), 24 + 612 p., ill., 16 maps; cloth, \$4.00.

Besides the monumental works upon which his reputation rests, Prof. Lanciani has published in English several lighter books which have enabled those who run to read very easily, and with perfect appreciation of the architectural history of the greatest of all cities. Of these perhaps the most informing and most available for our purpose is the "Ruins and Excavations."

MIDDLE AGES.

Howard Crosby Butler, Professor of Art and Archaeology, Princeton University. *Architecture and Other Arts*; Part II of the publication of an American Archaeological expedition to Syria in 1899-1900. *Architecture, Sculpture, Mosaic and Wall Painting in Northern Central Syria and the Djebel Hauran*. New York, The Century Co., 1903; small fol. (.37 x .29 x .04), 25 + 433 p., ill., pl.; cloth, \$20.00 net.

When de Vogüé's book on "Syrie Centrale" was published in 1865 it was discovered at once by all critics, from Viollet-le-Duc down, that his revelations were vastly significant in the study of mediæval architecture, for the reason that the disintegration which befell Roman forms in the dark ages is most logically worked out in the table-land of Syria. De Vogüé's work does not properly come within the limitations of our list, but this fine American book by Professor Butler replaces it perfectly and is a splendid addition to any library.

Georg Gottfried Dehio, Professor in the University of Strasburg, and Gustav von Bezold, Director of the Germanic Museum, Nürnberg. *Die Kirchliche Baukunst des Abendlandes*. Stuttgart, Bergsträsser, 1901; text 8vo (.24 x .165 x .03), vol. 1-2: pl., small fol. (.4 x .32 x .035), vol. 1-5; 296 marks, unbound.

Two leaders in the artistic life of Germany have undertaken to publish a body of illustrations of the most important mediæval churches of western Europe. Their drawings are not elaborate, or especially attractive, but they are good, telling one in most cases precisely what one wishes to know concerning the building in question. There are plans of all important monuments.

Raffaele Cattaneo. *L'Architettura in Italia del secolo VI al mille circa*, translated by the Countess Isabel Curtis-Cholmeley in Bernani; *Architecture in Italy, from the sixth to eleventh century*. London, T. F. Unwin, 1896; 4to (.27 x .2 x .04), 363 + 1 p., frontispiece, ill.; cloth, \$2.15 net.

The existence of an English translation enables us to enrich our list with a notable book. Our readers will find the line illustrations from early Italian ornament most attractive and useful.

G. T. Rivoira. *Le Origini della Architettura Lombarda e delle sue principali derivazioni nei paesi d'Oltre Alpe*. Rome, Loescher & Co., 1901-1907; 4to (.31 x .225 x .03-06), 2 vol., ill., 20 pl.; 90 lire, unbound; 506 copies printed.

It is a transgression of our self-imposed limitations to introduce so unfamiliar a language as Italian; but Rivoira's discussion of the Romanesque style, in Italy

usually called Lombard or Byzantine, is so ingenious and his splendid body of illustrations covers this suggestive period so completely, that even a small library may well give it space upon its shelves.

Arné Dehli, Associate of American Institute of Architects. *Selection of Byzantine Ornament*. New York, Helburn, 1890; small fol. (.36 x .29 x .035), 2 vols., no text, 100 pl.; \$20.00, unbound. Dehli's "Byzantine Ornament" is intended for use on the office table, as a source of suggestion in decorative design. The selections, mainly from St. Mark's and the Ravenna buildings, are well drawn in outline.

Charles A. Cummings (b. 1833, d. 1905), Member of American Institute of Architects. *A History of Architecture in Italy from the Time of Constantine to the Dawn of the Renaissance*, with nearly five hundred illustrations. Boston and New York, Houghton, Mifflin & Co., 1901; 8vo (.235 x .16 x .035), 2 vols., frontispiece, ill.; cloth, \$7.50 net.

The late Mr. Cummings left a charming work which covers this fascinating but vague period in a most sympathetic and careful manner. It should be in every American library.

Edouard-Jules Corroyer (b. 1851, d. 1904), Architecte, Inspecteur général des édifices diocésains. *L'Architecture romane*; in *Bibliothèque de l'enseignement des Beaux-Arts*. Paris, Maisson Quantin, no date. (1888); 12mo (.21 x .15 x .025), 320 p., ill.; cloth, 3 francs 50 centimes.

Edouard Corroyer was a pupil of Viollet-le-Duc and played an important rôle in the study and preservation of French monuments. His little manuals on French Romanesque and Gothic Architecture will be found useful, that on Gothic Architecture has been translated.

Charles Herbert Moore. *Development and Character of Gothic Architecture*. Second ed. rewritten and enlarged. New York and London, The Macmillan Co., 1899; 8vo (.24 x .165 x .035), 28 + 454 p., ill., 11 pl.; cloth, \$4.50 net.

American students have found in Professor Moore's "Gothic Architecture" quite the best manual on this subject in English. It is the starting point for all research in the history of Gothic Architecture.

Edouard-Jules Corroyer. *Architecture gothique*; translated by Walter Armstrong; *Gothic Architecture*. London and New York, Macmillan Co., 1893; 12mo (.21 x .15 x .025), 382 p., ill.; cloth, \$2.00.

See note on Corroyer; *L'Architecture romane*.

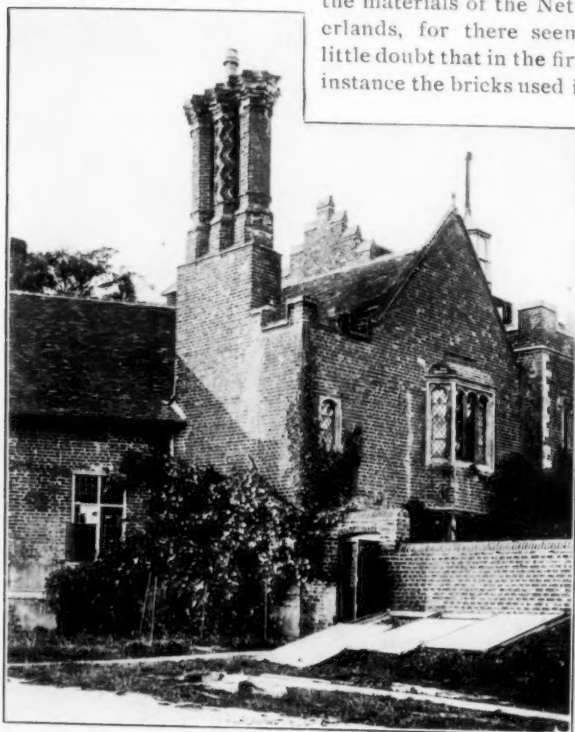
Eugène-Emanuel Viollet-le-Duc (b. 1814, d. 1879). *Dictionnaire raisonné de l'Architecture française du XIe au XVIe siècle*. Paris, 1854-68, later ed., 1875; 8vo (.245 x .16 x .035), 10 vols., portrait, ill. *Table Analytique et Synthétique* par Henri Sabine. Paris, 1889; 8vo., 20 + 387 + 1 p. The price of this book in half morocco and without the *Table Analytique* varied from £7 2s. to £8 in 1907.

Notwithstanding the prodigious mass of literature which is constantly appearing on the general subject of mediæval art, Viollet-le-Duc's great *Dictionnaire* still leads the field. Not only is it an inexhaustible treasury of information; it is also a strong book by a great writer, who appreciated fully the force of the historic movement which he did so much to make intelligible.

Brickwork in East Anglia.

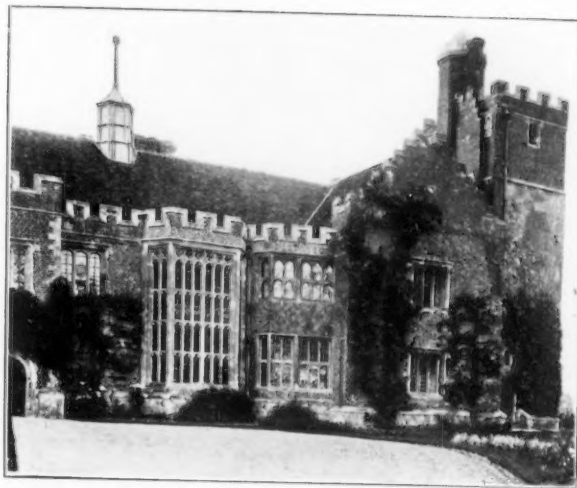
THE Eastern Counties of England — Norfolk, Suffolk, Essex — afford examples of a great number of beautiful manor houses and other buildings constructed almost entirely of brick, and counting among them the earliest examples of such work subsequent to Roman times. The bricks used by the Romans in Britain were of large dimensions, being much longer and wider and thicker than those of the present day, while the bricks in East Anglian houses are smaller and thinner than the standard brick of to-day. The reason for this is found in the fact that the revival of brickbuilding in England was coincident with the incoming of the Flemings into the Eastern Counties in the fifteenth and sixteenth centuries. They brought with them the traditions and even

the materials of the Netherlands, for there seems little doubt that in the first instance the bricks used in



HORHAM HALL, ESSEX.

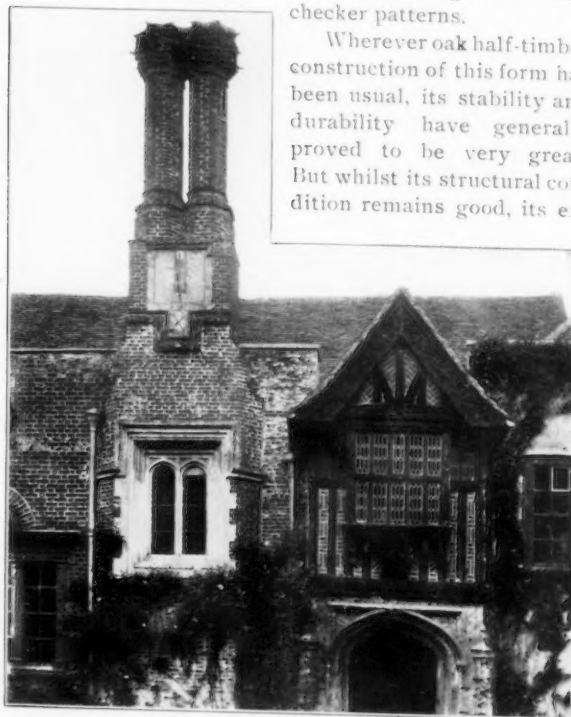
the houses came over from Holland. As Mr. Edwin Gunn, A. R. I. B. A., pointed out in a most interesting paper, which he read before a recent meeting of the London Architectural Association, materials for the manufacture of brick and tile could be readily obtained in the Eastern Counties, but their use was somewhat restricted by the badness of the roads, which made the transit of any heavy material in bulk a serious and difficult matter. As a consequence, in most cases previous to the eighteenth century, brickwork is found only in buildings of sufficient size and importance to have justified manufacture on the spot, or in such situations that the bricks could be brought by water. In the smaller buildings its use is restricted by bare necessity, and generally confined to chimney stacks, wall base or nogging. Tile roofs were frequent, but the builders were obviously more at home in their use of thatch, and displayed none of the dexterity of the Home Counties tilers, whilst tile-hanging is almost unknown.



HORHAM HALL, ESSEX.

The type of small domestic building in the Eastern Counties which was most common in the Middle Ages differs hardly at all in its constructive essentials from the half-timbered buildings of the southern counties of England. It has usually a base of brickwork or brick and flint upon which is erected oak framing composed chiefly of vertical studs, the narrow panels between being filled with clay and straw. Each successive story overhangs that below, and the panels are plastered flush with the framing. An immense amount of work such as this remains almost intact in such towns as Lavenham, Sudbury, Hadleigh, and in their adjoining villages. It was also a very frequent practice to fill in the panels between the timber framing with brick nogging, laid with most charmingly-ordered irregularity in various forms of diagonal, herringbone and checker patterns.

Wherever oak half-timber construction of this form has been usual, its stability and durability have generally proved to be very great. But whilst its structural condition remains good, its ex-



GIFFORDS HALL, STOKE-BY-NAYLAND.

ternal appearance often takes an air of picturesque dilapidation, which, though much appreciated by sketchers and photographers, is distasteful to the mind of the owner, who then proceeds to find a remedy. In Kent and Sussex this remedy is generally tile-hanging, but, as before stated, this is uncommon in East Anglia; it is, in fact, in the early seventeenth century that the specially individual characteristics of the district develop.



GIFFORDS HALL, STOKE-BY-NAYLAND.

As already indicated, great proficiency in the use of brickwork was attained at a comparatively early date in the Eastern Counties. It is only necessary to instance such examples as Little Wenham Hall, East Barsham Manor House, Oxburgh Hall, Great Snoring Rectory, Layre Marney, and other similar buildings in proof of this. In the smaller buildings, however, it is chiefly in chimney stacks and wall base that brickwork shows. The capacity of the local bricklayer to produce good results with no other material than common red bricks (of course two inches thick) and plain tiles was quite surprising. It is astonishing to note the variety of design extracted from these simple materials as used in the chimney stacks of the early seventeenth century. Earlier than this the usual clusters of octagonal shafts, often elaborately molded, are most frequent, but from that time onward a distinct local type seems to have arisen, and one which appears to have many points in its favor.

Beautiful as all must admit the clustered type of stack to be, the single flues of which it is composed offer the very greatest chance of draught, owing to their large cooling surface, and, furthermore, have great opportunities of falling into disrepair. The abundance of examples in which they may be

seen to have been rebuilt from the base upward is evidence of this. In the later type detached flues are abandoned; or rather, they appear to coalesce into ribbed chimney stacks, having a fine sturdy effect and the practical advantage of keeping the flues warm and preserving their own stability.

Among the illustrations which accompany this paper it will be noted what an outstanding feature the chimneys



EAST BARSHAM, NORFOLK.

are, and in what diversity they are wrought. For the rest, one sees how unostentatiously the brickwork has been used in unbroken wall space, in conjunction with the oak framing or with stone dressings to windows, balustrades, string-courses and other parts.



DEANERY TOWER, HADLEIGH, SUFFOLK.

Among the brick built houses which remain to tell of the wealth and prosperity of the Eastern Counties, at the beginning of the sixteenth century, East Barsham is the most widely known. The walling is of thin, red brick (five courses, including joints, rising to about one foot), mellowed with age to a warm, rich red, in which diaper work is sparingly introduced. The traceries, molded bricks and window heads exhibit no characteristics unfamiliar to the native craftsman, but here and at Great Snoring Rectory, close by, intermixed with this native work is much ornament in terra cotta, which betrays a foreign hand — presumably Italian. Prominent on the exterior is the cluster of the chimney shafts at the west end, rising above a great pile of brickwork, which, at one time, formed the end wall,

containing the fireplaces to the hall and adjoining parlor, while other striking features are the molded brick pinnacles at the corners of the towers and the panel work on the main front of the house. Other fine



MOYNS PARK, ESSEX.

chimney stacks are to be seen on Thorpland Hall, Norfolk.

Horham Hall, Essex, is another example of the old brick house of East Anglia. Here, as usual, the walling is of thin, red bricks, with dark gray headers sparingly introduced to form a diaper in places, but with stone for all the wrought work to porch, bay and window. The porch gives access through the "screens" to the great hall, which occupies the whole of the center of the house, measuring about 46 feet by 24 feet, and 25 feet high, and having a magnificent bay window, arranged in four tiers of lights.

Another fine house is Moyns Park, in Essex — wonderfully striking in the breadth of its effect, with the great bays alternating with the gables. On elevation, the features are apparently of the simplest character, but



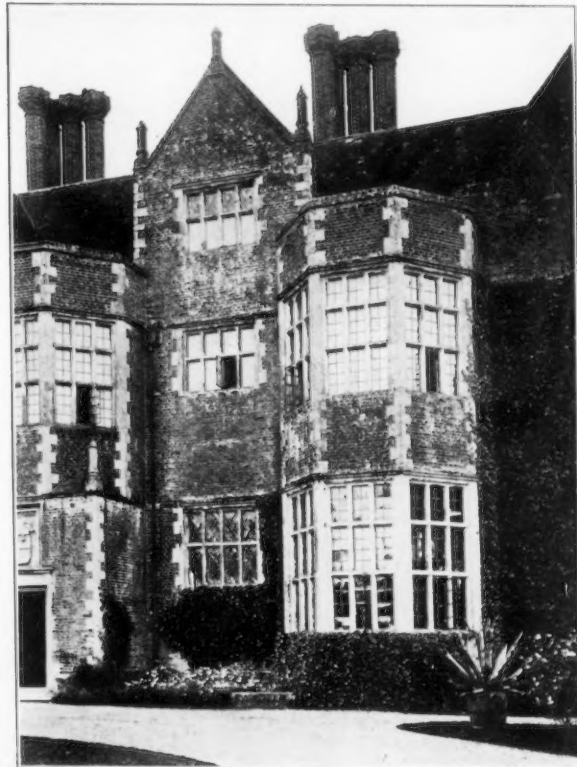
OLD HOUSE. MOYNS PARK, ESSEX.



MOYNS PARK, ESSEX.

the work is so well proportioned and so pleasingly disposed that the result is truly a "joy forever," the more so as the brickwork, after centuries of exposure, has mellowed to a beautiful tone, which, with the lichen and ivy, forms a color harmony of exquisite value.

Of the other houses shown, the illustrations may be



MOYNS PARK, ESSEX.

left to speak for themselves. Hadleigh dates from about 1500, and Giffords Hall from about the time of Henry the Eighth, with a hall of much earlier date — probably fifteenth century. They all testify to the noble effect of brick building, to the charm of cunningly-devised chimney stacks, and to the breadth of effect which can be secured by plain wall space, appropriately relieved; they are eloquent, too, of that quiet grandeur which has grown round about them in the course of centuries, wherein the hand of time has wrought its kindest work.

Editorial Comment and Miscellany.

THE chief cause of the acknowledged monotony of American streets is the practice of building solidly to a uniform street line. In every case where an old landmark in the shape of a public building or venerable mansion, surrounded by a bit of ground and verdure, has been razed for modern buildings there is a feeling of mute regret. This is because the only agreeable spot of relief in an otherwise solid street front has gone. It is useless to complain of destiny in the growth of cities, but it is natural to wish for some compensation to the losses it causes. It is natural that Martin's neighbor on Fifth Avenue should protest against the projecting summer garden and portico of the restaurant; likewise the neighbors of Sherry's, of the St. Regis, of the Hotel Gotham and of the Waldorf. And the Appellate Court may be right in compelling the removal of all structures now existing beyond the house line on either side of Fifth Avenue; but a portion of the public, at least, is interested in knowing what is to take the place of these verdant terraces which are truly an ornament to the thronged thoroughfare. If for the physical needs of the traffic the terraces



DETAIL BY NORTHWESTERN TERRA COTTA COMPANY.
Toledano & Wogan, Architects.

asphaltum wastes, admitting the beauty of Nature to Vanity Fair?

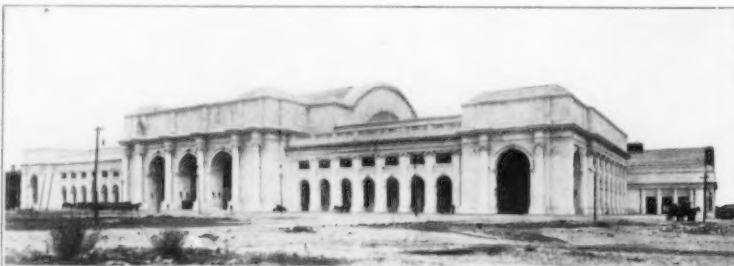
THERE is considerable agitation in Chicago over a boulevard elevated upon a series of arches, and proposed by Mr. Burnham and his associates for connecting the north and south park systems. Voicing the sentiment

of the opposition, one of the city's leading dailies declares that the wishes of the average taxpayer and resident of Chicago have not been considered. How weak a plea: The true attitude of that fraternity, — if attitude it have, — is never ascertainable in such cases when a few leaders are supplying the momentum for a public improvement. Whatever change is proposed is

sure to meet with the muttered criticism, reluctance and apathy of the average taxpayer and resident. These persons have never actuated a public improvement of an esthetic nature. Radical changes in cities are always achieved by a dictator or a dictator backed by a unani-

mous council. When the average taxpayer and resident takes a hand there will be time enough to consider his wishes.

THE findings of the Board of Award of the New Sing Sing Prison Competition are neither satisfactory nor unexpected. While the successful competitor may not have been foretold, the unfortunate outcome is not surprising in view of the unfavorable circumstances which met the launching of the competition. In the opinion of some, these circumstances, which caused some of the best talent in New York state to hold aloof from the contest, had their origin in part in the disagreement between the champions of the "closed competition" and those of the "open competition." At all



UNION STATION, WASHINGTON, D. C.
D. H. Burnham & Co., Architects
Fireproofed throughout with Terra Cotta Hollow Tile
by National Fireproofing Company.



FAIENCE WALL PANEL
5 feet high, 3 feet wide.
Executed by Hartford Faience Co.

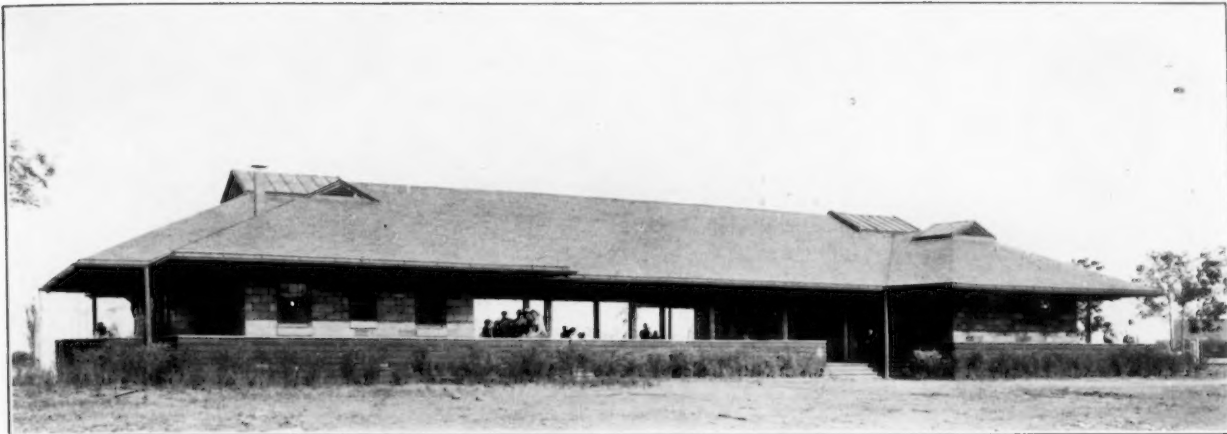
and gardens must go, will the city do anything to beautify the Avenue by other means? Will it bring a glimpse of verdure to

events, it is very satisfying to read the protest entered by the State Architect of New York and to note his warm approval of Warren & Wetmore's superb plan.



DETAIL BY CONKLING-ARMSTRONG
TERRA COTTA CO.
A. A. Ritcher, Architect.

THE first skeleton skyscraper in New York City is the Tower Building at 50 Broadway, which was designed by Bradford L. Gilbert in 1888. The scheme of transmitting the weight of walls and floors through girders and columns to the footings was then a novel one.



THE LAKESHORE PLAYGROUND SHELTER, CHICAGO.

Perkins & Hamilton, Architects.

Exterior and Interior walls constructed of salt glazed hollow Terra Cotta blocks made by National Fireproofing Co.

The building laws made no provision for such construction. When a permit was applied for, the plans were submitted to a board of seven examiners, who long deliberated the matter and at length approved the application for a permit. The building was finished a year later. Now it is being demolished to give place to a new thirty-eight-story structure designed by Architect W. C. Hazlitt.

number of seats under cover was very close to 40,000. There were numbered seats for 68,000 people and standing room with iron rails to lean against for from 40,000 to 50,000 more.



DETAIL BY AMERICAN TERRA COTTA & CERAMIC CO.
W. J. Frein, Architect

ARCHITECTS designing buildings in connection with athletic fields may make interesting comparisons with the Stadium at Shepherd's Bush, London, where 125,000 spectators could watch 2,000 of the picked athletes of the world in the recent Olympic Games. The length of the turf inside the running track was 235 yards, the breadth just under 100 yards. The swimming pool was 109½ yards long by 50 feet wide, with a depth of 12 feet in the center for high diving. The

terms of the competition, are permitted to enter the final contest along with five other firms invited to submit designs and to be paid \$400 each for so doing. These

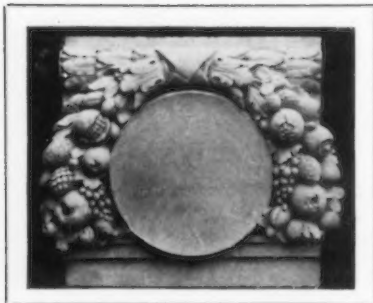
firms are Cass Gilbert, Hale & Rogers, Lord & Hewlett, Peabody & Stearns and Pell & Corbett. The two winners in the preliminary competition will also be paid \$400 each. The final competition will also be open to all Springfield architects who are able to qualify professionally before Prof. Warren P. Laird of the University of



GARFIELD PARK REFECTORY AND BOAT HOUSE, CHICAGO.

W. C. Zimmerman, Architect.

Roofed with green glazed tile made by Ludowici-Celadon Co.



DETAIL BY F. M. ANDREWS,
ARCHITECT.
New York Architectural Terra Cotta Co.,
Makers.

skyscrapers have been announced. The Bank of New York has plans by Clinton & Russell for a twenty-story building of limestone and granite, costing \$650,000, and to be erected at the northeast corner of Wall and William streets. Another is the 1,000-foot high building to occupy a plot at Broad and Wall streets. The cost is placed at \$7,000,000, and the area of the tower, it is reported, is to be 100 by 80 feet. Ernest Flagg is said to be the architect. The United States Realty Co. plans a twenty-four-story building for Nos. 67 and 69 and Nos. 89 to 91 Beaver Street.

REAL estate owners in New York, aroused at the recent announcement of a \$1.61 tax rate, are organizing for the purpose of keeping a strict watch upon the making up of the annual budget, and of following the manner in which it is spent. Little effort is made, they argue, to collect the full tax upon personal property, while the burden of municipal extravagance invariably falls upon real estate. Conditions may be pretty bad in New York, but the tax rate objected to is much less than that in force in many other American cities.

Two New Park Buildings, Chicago.

(See illustration, this number.)

SEWARD PARK, Chicago, is named for Wm. H. Seward, President Lincoln's secretary of state, the Park Board having adopted the names of Lincoln's cabinet officers as names for this and future small parks.

Pennsylvania who is the advisory architect of the Municipal Building Commission. The two local firms whose work is regarded as the best will be paid \$400 each.

WALL Street is having a building boom. Within a fortnight plans for three

The dimensions of the ground are 346 x 218 feet. It is situated in a densely populated district on the North Side where ground is expensive for park purposes.

The site is not a large one, but cost \$85,000, it being necessary to wreck a large building which previously occupied it. The building was erected at a cost of \$85,000, and its equipment (including outdoor improvements) \$15,000 more. Ample facilities are provided for gymnastic instruction for men, women and children of all ages, both summer and winter. A large amount of play apparatus has been installed for the children. Space has been provided in the field for games and a running track.

The building contains a large gymnasium for men and one for women, each 40 x 78 feet. Steel locker, toilet and shower accommodations for men, boys under ten years of age and women and girls are provided in three groups with gymnasium connections from each, 400 steel lockers being installed in each group with separate toilets and shower baths. The locker groups are each on three levels with upper floors constructed of 1-inch glass in iron frame and a small stair connection is provided from floor to floor. The roof above each is of green glass tile.

The central loggia, 40 x 60 feet, provides entrance, shelter and lounging space for a large number of people. The assembly hall above it (of the same size) is well arranged for entrance and exit — stairs on both sides — and is intended for dancing and entertainments.

Adjoining the assembly hall is a free reading-room and delivery station conducted by the Chicago Public Library Board. Below this, on the first floor, are lunch rooms and the director's office.

The building is built en-



DETAIL BY NEW JERSEY TERRA COTTA CO.
Clinton & Russell, Architects.



DETAIL BY SOUTH AMBOY TERRA COTTA CO.
J. Warner Allen, Architect.



DEAN BUILDING, SO. BEND, IND.
George W. Selby, Architect.
Brick made by Hydraulic-Press Brick Co., St. Louis.

tirely of brick both inside and out, the exterior being of a rough wire-cut brick with beautiful variation of color in reds and browns. The interior is of a yellow vitrified brick, the roof of green enameled tile.

The Lake Shore Playground is used entirely for a baseball field. The portion to the east of the building for some three hundred feet is used for a playground and an athletic field for men, women and children. The building contains

a rest-room, toilets and shower baths for women and separate equipment of locker, toilet and shower accommodations for men and boys under ten years of age as well as a very large area of outdoor observation and shelter floor space.

IN GENERAL.

Russell E. Hart, New York City, winner of THE BRICKBUILDER'S Competition for a Theater Building, will spend the coming winter in study and travel in England, France and Italy.

Wilson Levering Smith, formerly with Parker, Thomas & Rice, has opened an office for the practice of architecture in the Law Building, Baltimore. Manufacturers' catalogues desired.

The following named have been elected officers of the Pittsburg Architectural Club: Benno Janssen, President; Richard Kiehnel, Vice-President; Stanley L. Roush, Secretary; James M. Macqueen, Treasurer; John T. Comes, Chairman of Entertainment Committee.

Excavation at Herculaneum has been intermittent, and has lagged far behind



HOUSE FOR LLEWELLYN HOWLAND ESQ., PADANARAM, MASS.

Phillip B. Howard, Architect.

The walls are built of two courses of hollow tile terra cotta blocks, the blocks in the outside course measuring 12 in. x 8 in. and those on the inside 12 in. x 4 in. The walls are 9 in. in thickness.

similar work at Pompeii. An American company now proposes to attack the task with all the improved methods of modern mining.

The "Build Now" campaign is substantially assisted by lower prices for building materials; but this advantage is almost offset by high interest rates, for the money market is not yet in condition to back a normal building industry.

Milwaukee's Convention Hall, of which the corner-stone was laid

August 1, has the distinction of being available for use as a huge single auditorium, seating 8,594 persons, or being readily divisible into several smaller halls each separate from the other.



OFFICE BUILDING FOR DETROIT GAS CO.

John Scott & Co., Architects.

Exterior of white mat glazed terra cotta made by Atlantic Terra Co.

George F. Newton is the architect of the Music Building now being erected at Mt. Holyoke College. . . . Delano & Aldrich are doing the Music Hall which is the gift of Mrs. Russell Sage to the Northfield, Mass., Seminary. . . . Another donation by Mrs. Sage provides for a new dormitory at Princeton, for which building Frank Miles Day & Bro. have been chosen architects. . . . Parish & Schroeder are the designers of the \$80,000 Dining Hall now building on the campus of the Mt. Hermon, Mass., school. . . . Shepley, Rutan & Coolidge have the design completed for the John Hay Memorial Library at Brown University. For this building \$150,000 had been raised when Andrew Carnegie added as much more. Construction is soon to begin.

The Metropolitan Life Insurance Co.'s tower on Madison Square, New York,



DETAIL BY BRICK, TERRA
COTTA & TILE CO.
Henry C. Pelton, Architect.

O. F. Semsch, chief engineer for Ernest Flagg, has supplied figures for an imaginary skyscraper of the maximum height permissible under the various restrictions of the New York Building Code. The building would rise to a height of 150 stories; its walls would be 12 inches thick at the top and at the bottom 12 feet; they would withstand a wind pressure of 30 pounds per square foot their entire height; the building would cost about \$60,000,000. The height of such a building, it is declared, does not depend upon any structural defects or the wind pressure to which it would be subjected.

The new residence for James A. Blair, Esq., at Oyster Bay, Long Island, Carrère & Hastings, architects, will be built of "Real Roman Tapestry Bricks," furnished by Fiske & Co., New York. These bricks are 18 inches long, 8 inches thick, 6 inches wide and run in a great variety of color; from clear red to clear blue, with intermediate shades of brown, purple, olive and weathered copper.

The terra cotta used in the Armory at Brooklyn of which Pilcher, Thomas & Tachau were the architects and the Naval Battalion Armory, Brooklyn, Lord & Howlett, architects, was supplied by the Atlantic Terra Cotta Company.

The two Park Buildings, Chicago, Perkins & Hamilton, architects, illustrated in this month's issue, are roofed with tile made by the Ludowici-Celadon Co.

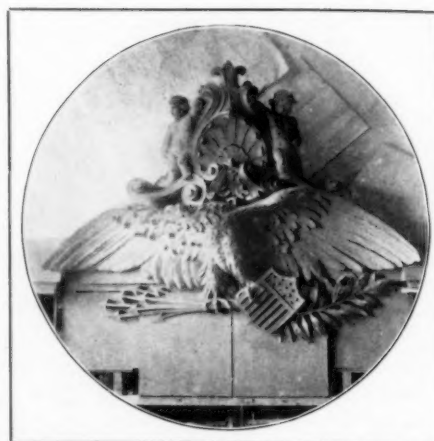
The faience panel by the Hartford Faience Company, illustrated in this issue of THE BRICKBUILDER, is composed of about five pieces. The black lines are recessed which

is to have four of the largest bells in the world. They are to chime the quarter hours 650 feet above the pavement.

Since Warren & Wetmore's plans were filed for the much heralded Ritz-Carlton Hotel in New York, it is reported that the project is to be abandoned, for the present at least. Meanwhile the management of the Plaza Hotel in New York plans to build a palatial hotel upon American lines in both London and Paris.

Plans for the restoration of the famous old castle of Heidelberg have been accepted by Grand Duke Frederick of Baden.

mark out the design and are about one-eighth inch in width. The real joints come along certain of these recesses. The recesses are beveled and filled in with black cement after the panel is set, thereby hiding the joint and giving a mosaic effect.



DETAIL BY MILLER & OPEL, ARCHITECTS.
Made by St. Louis Terra Cotta Co.



HOUSE AT COLUMBUS, OHIO.
Julian & Julian, Architects.
Built of "Ironclay" brick.

skyscrapers. The convention is the first of its kind ever held and it probably will result in the formation of a national association of building managers.

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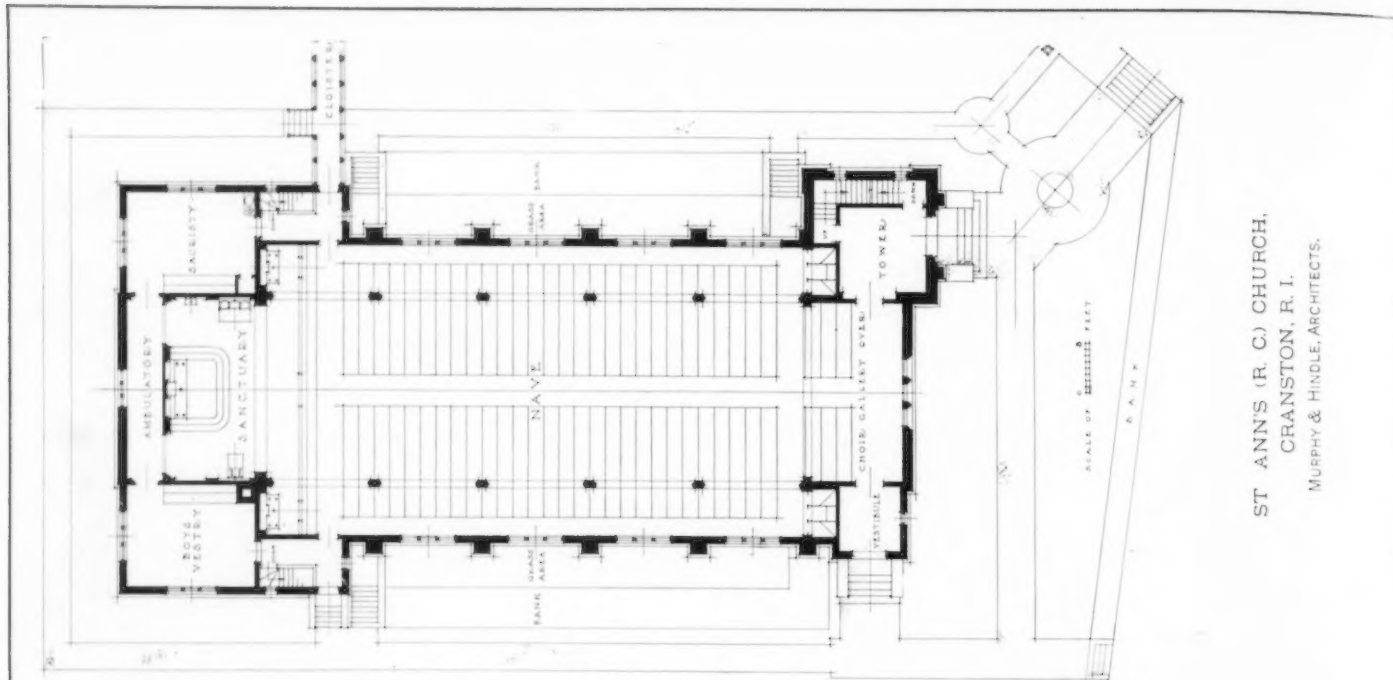
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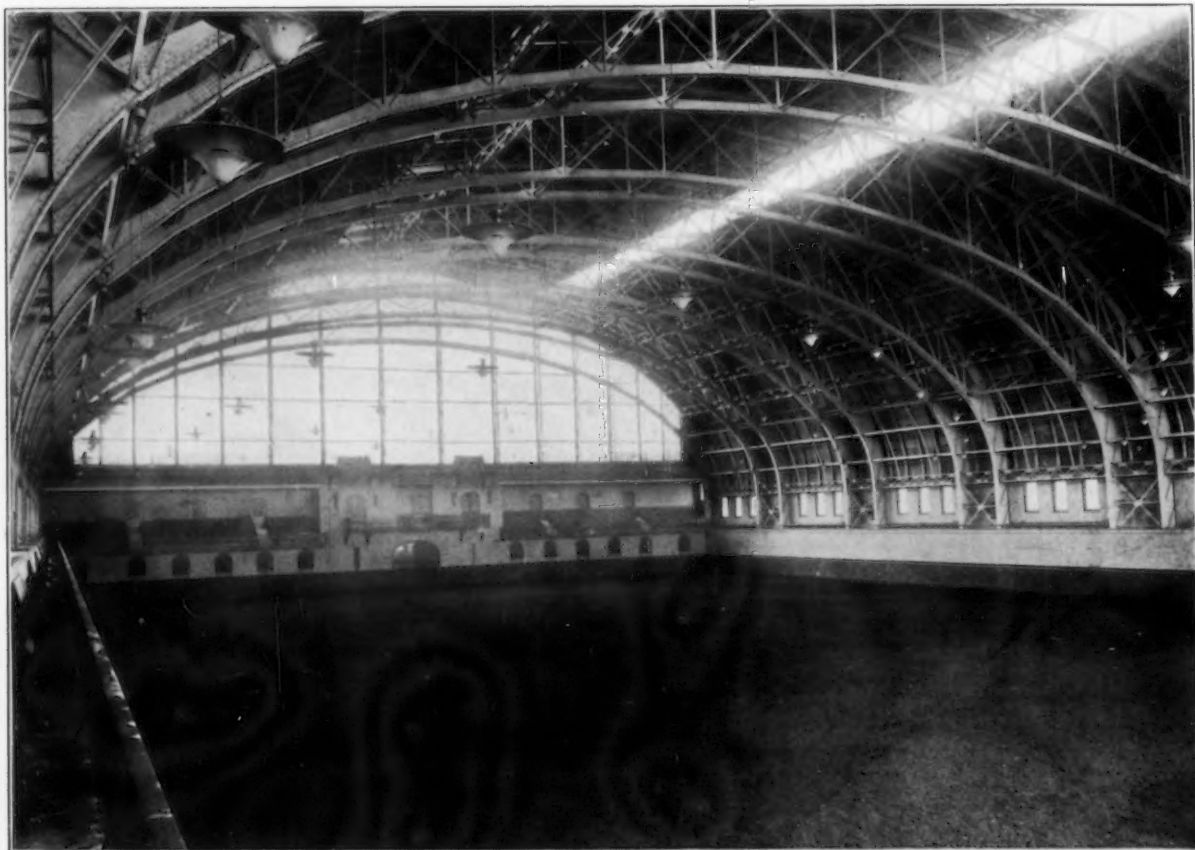
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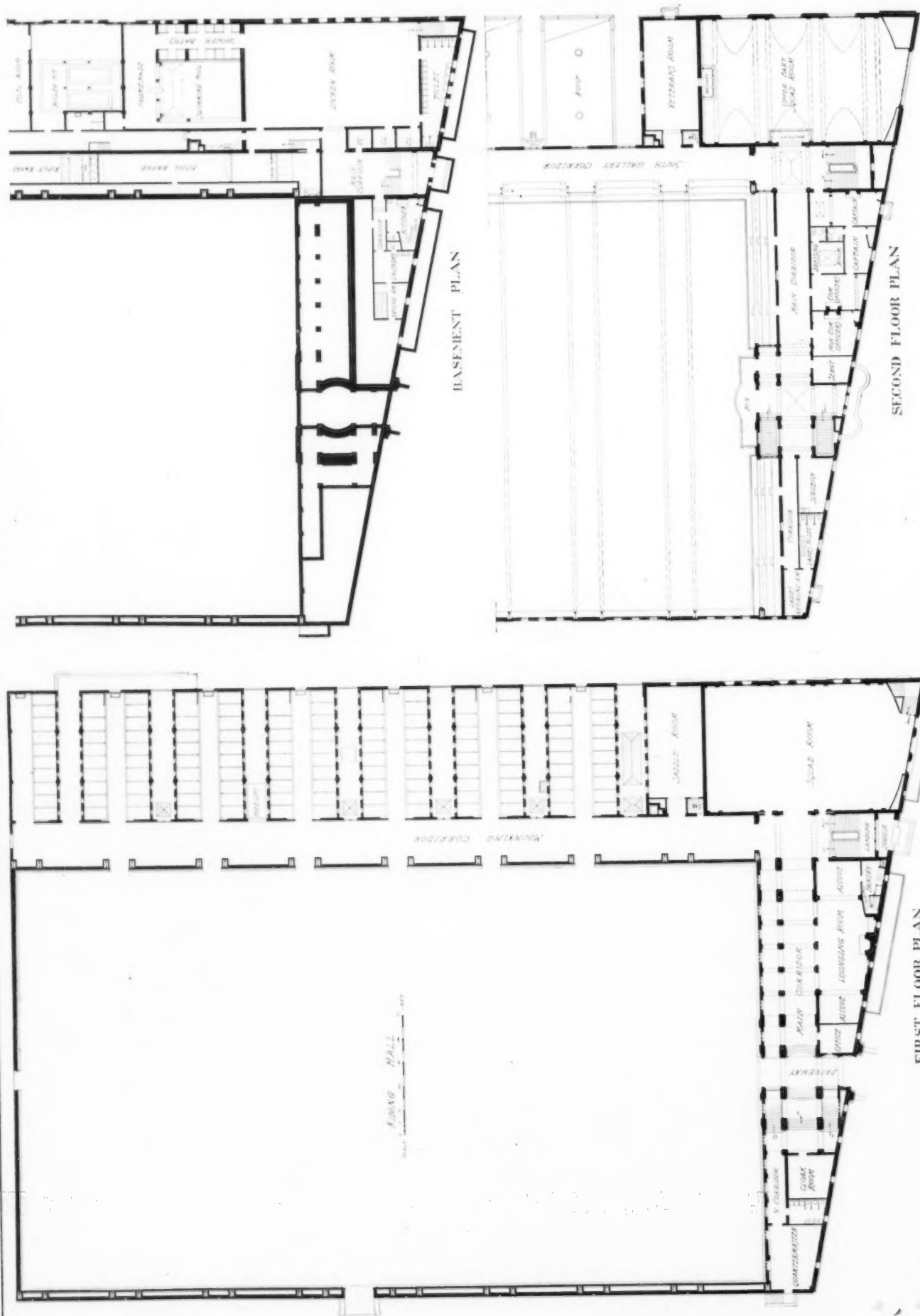


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MURPHY & HINDLE, ARCHITECTS.

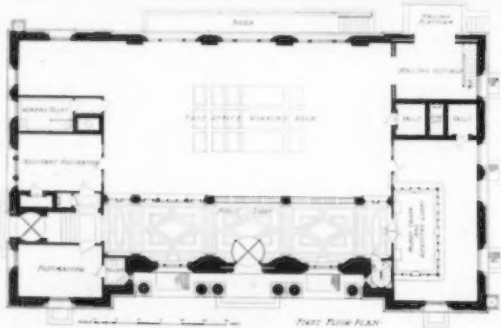
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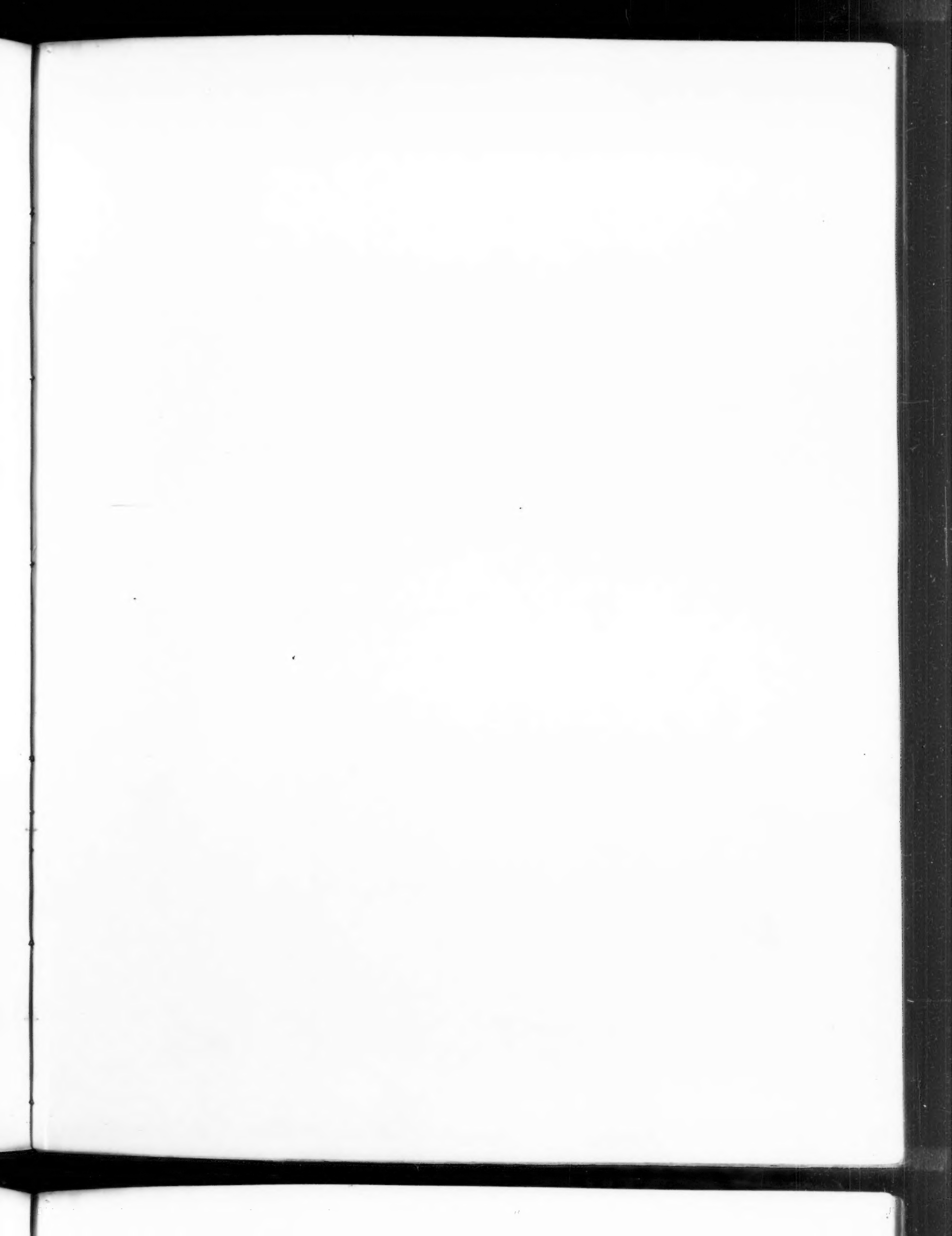


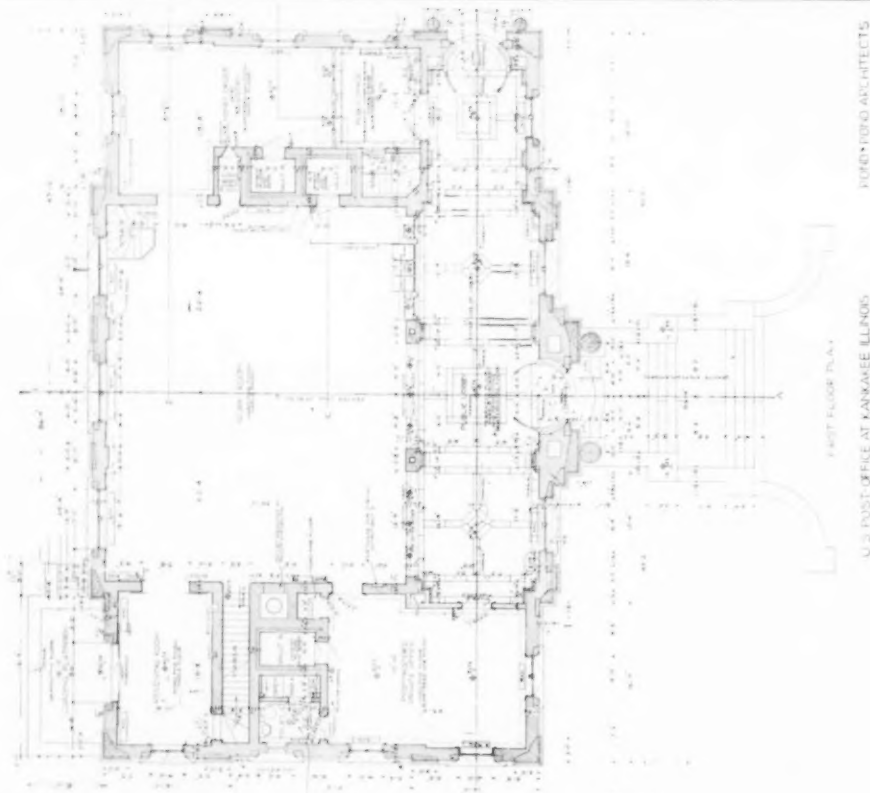
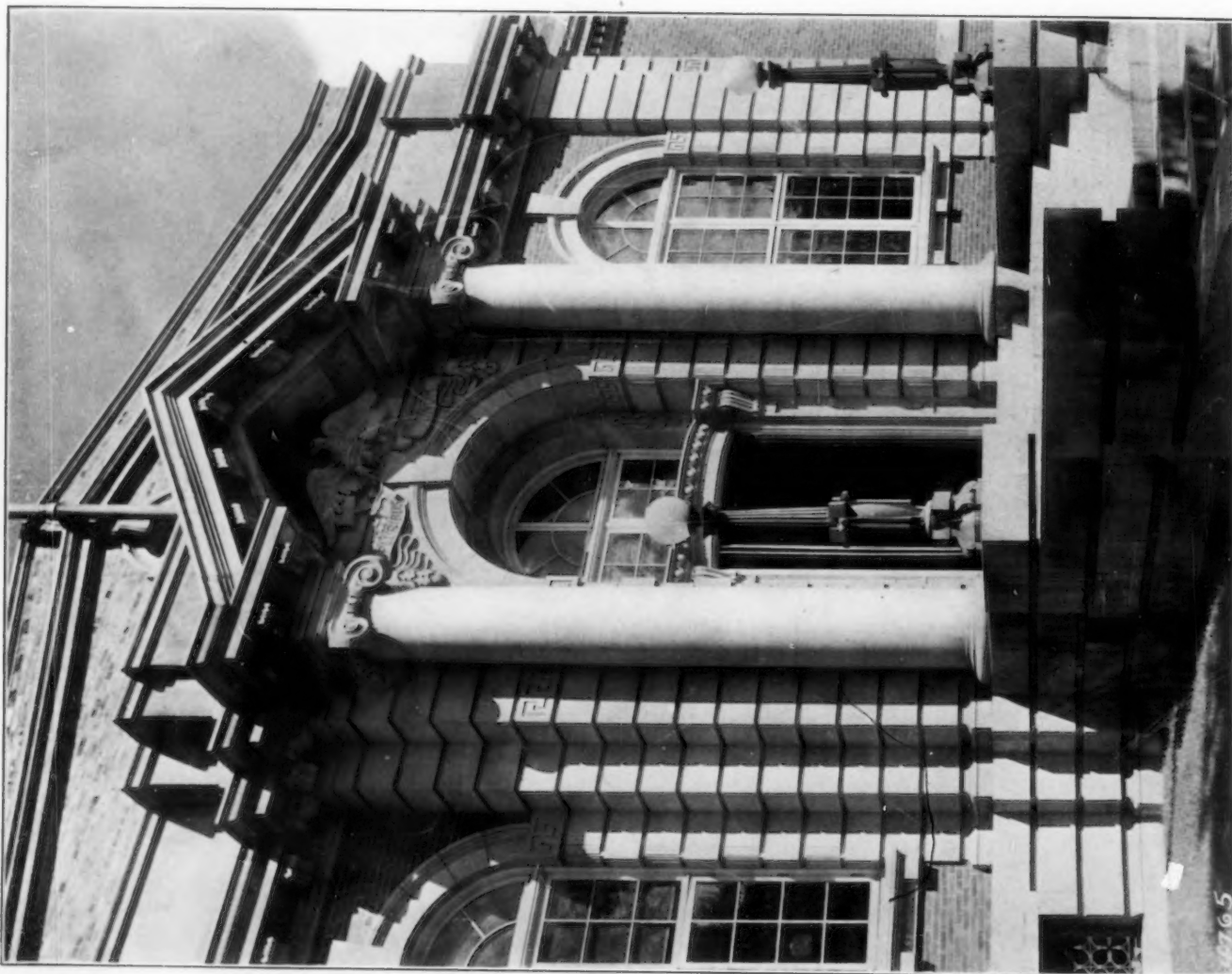
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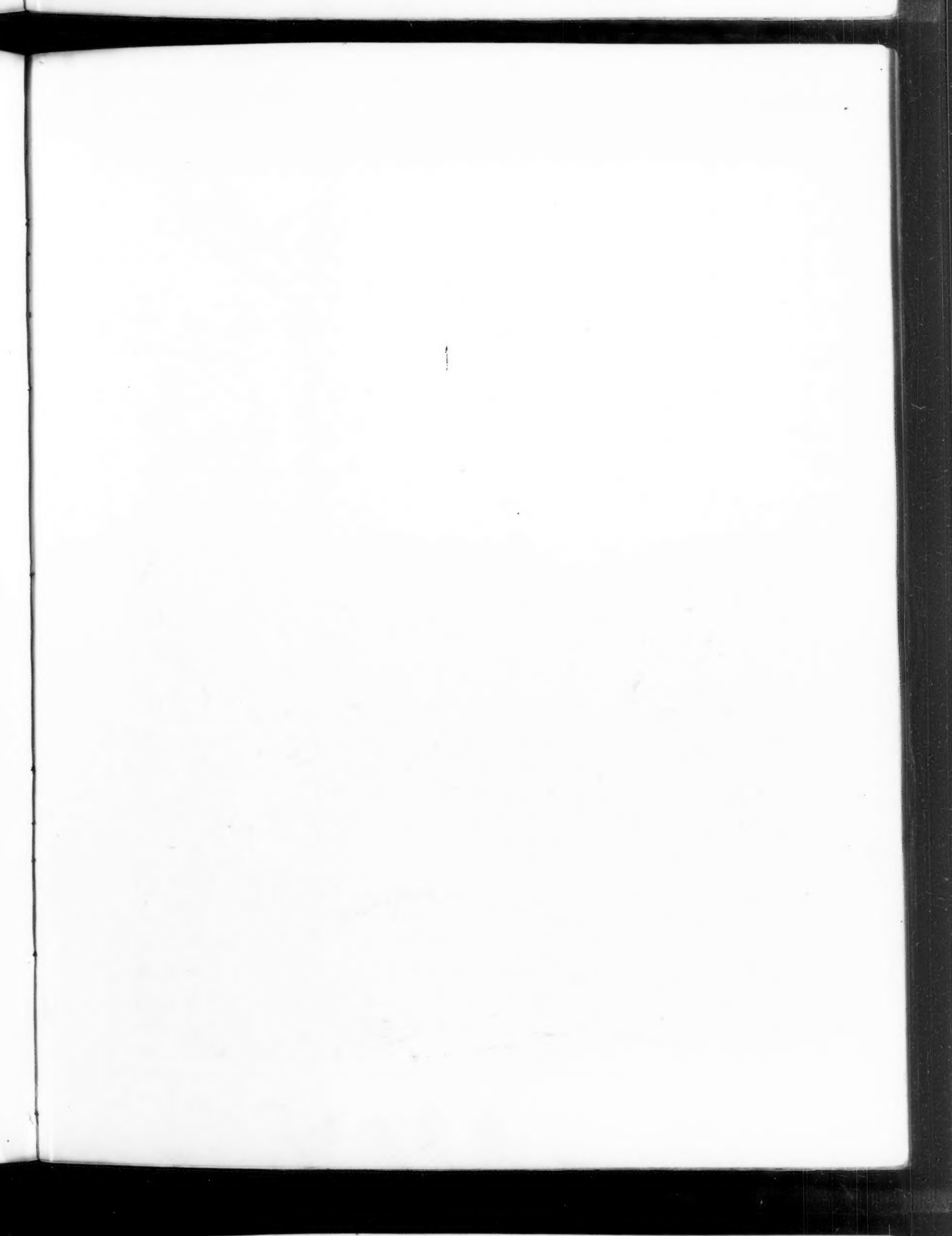


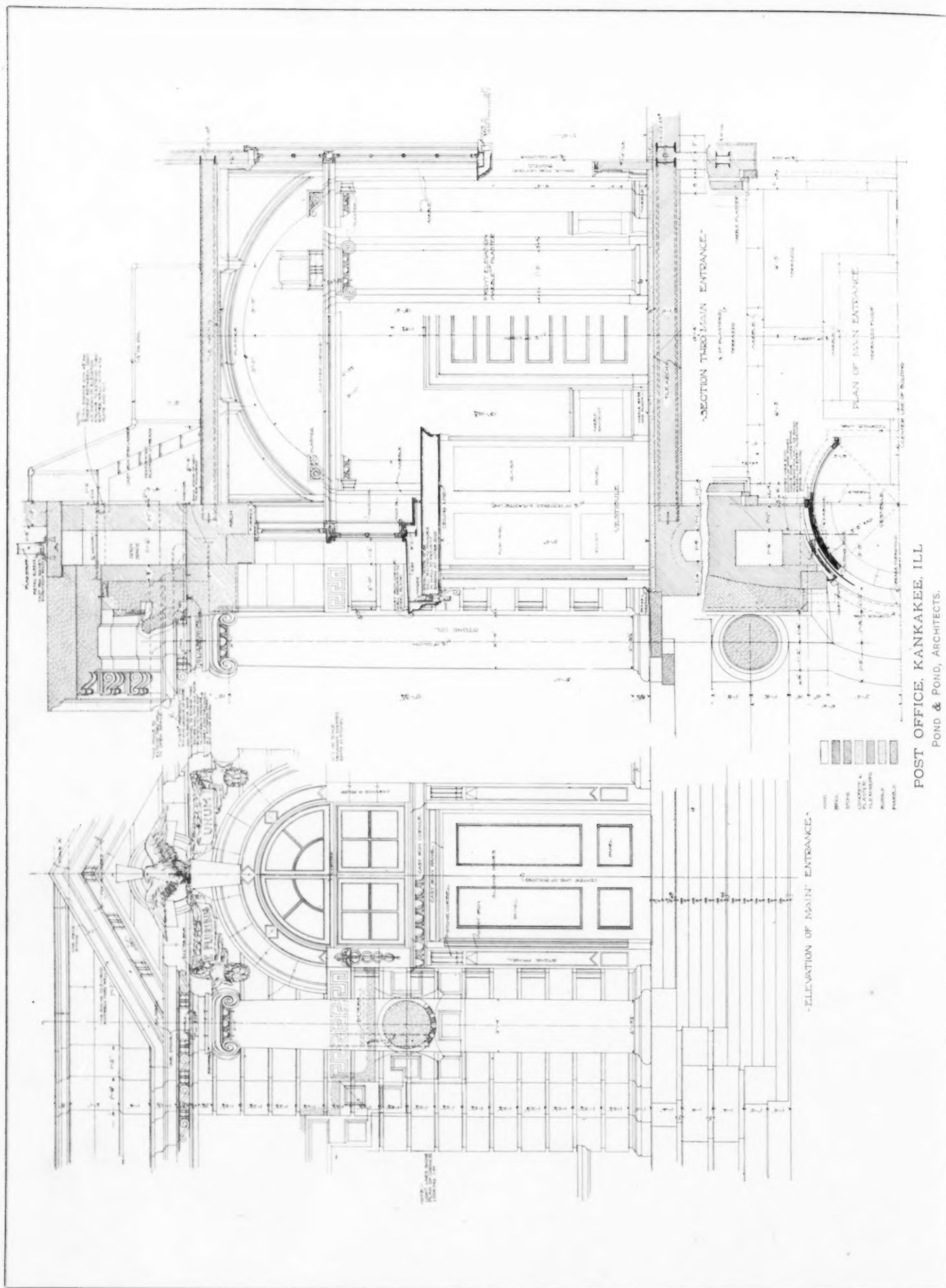


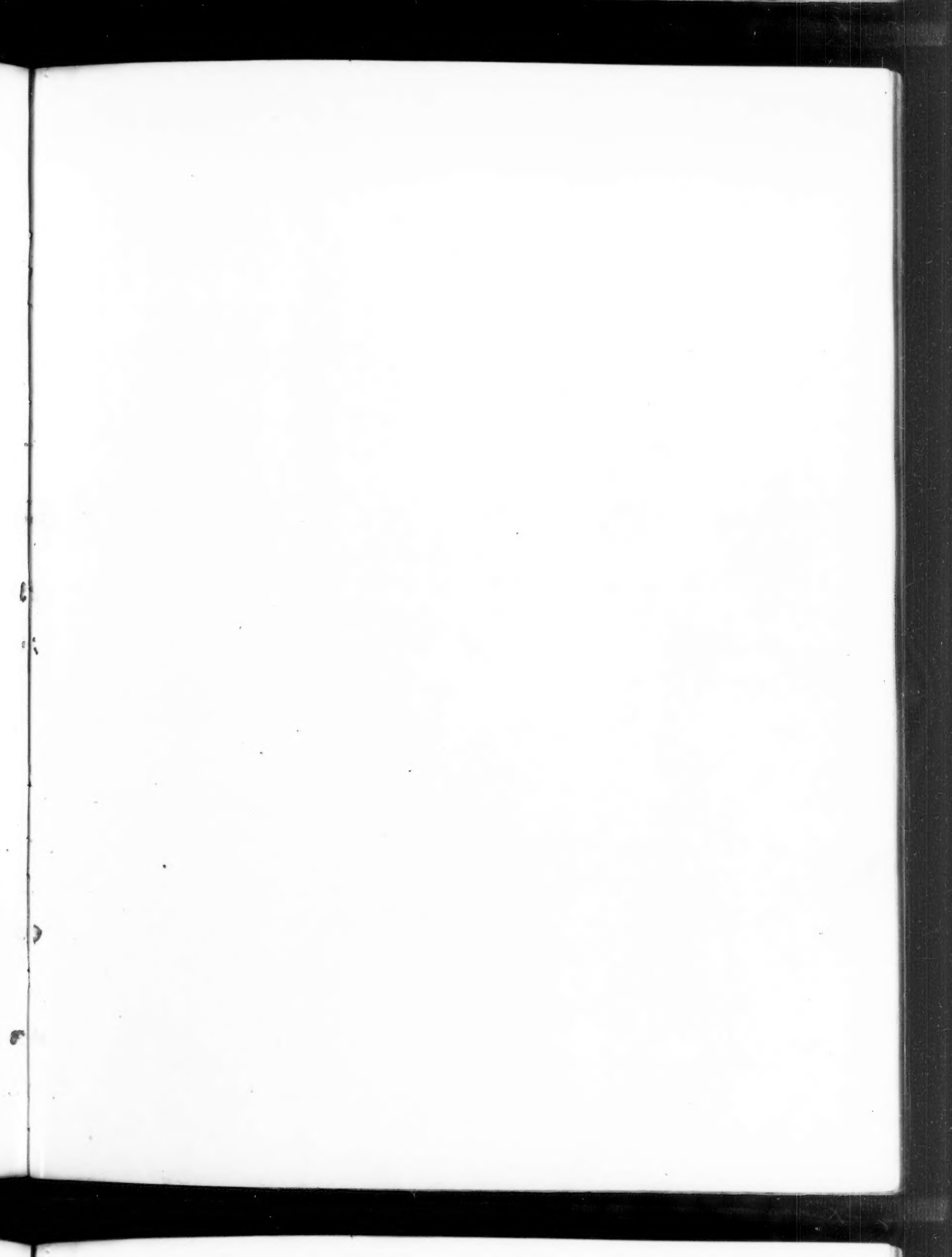
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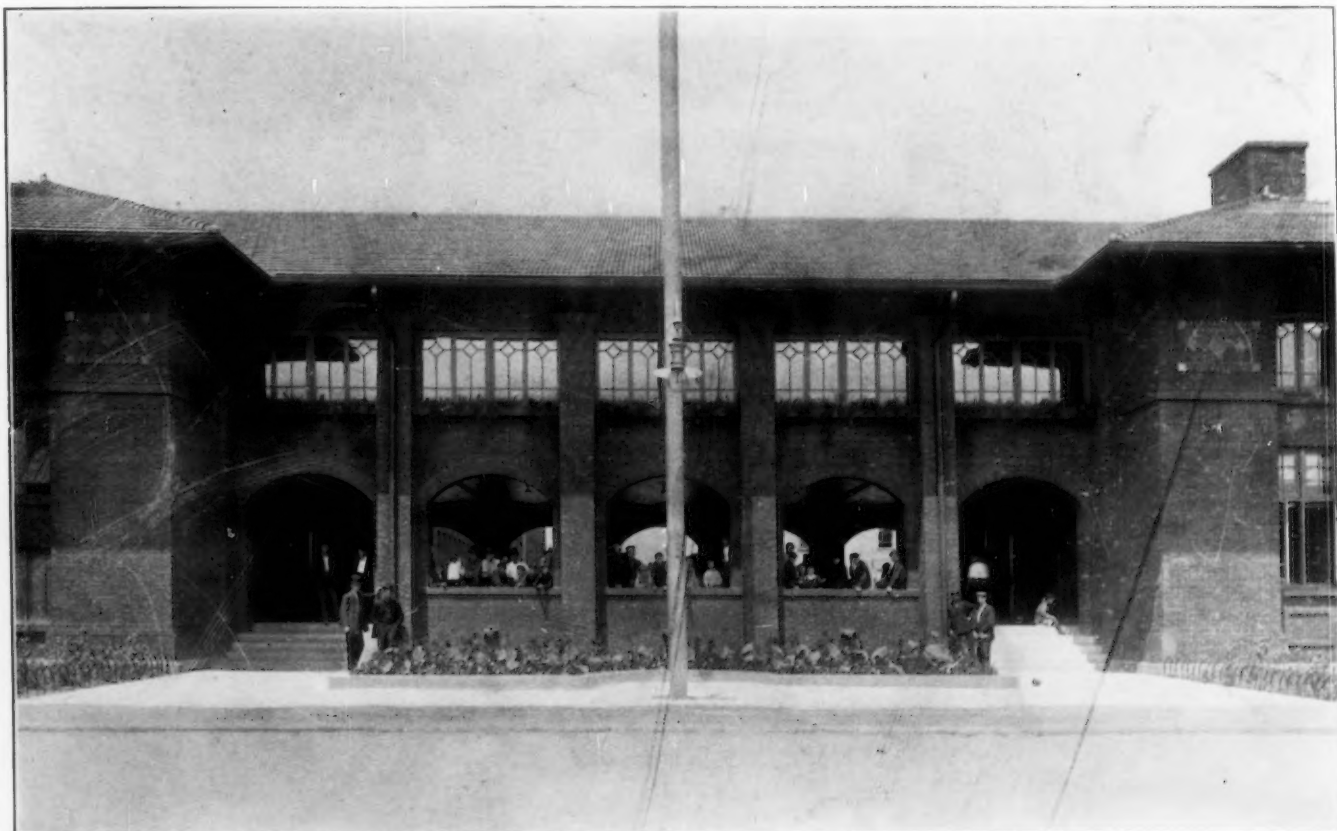




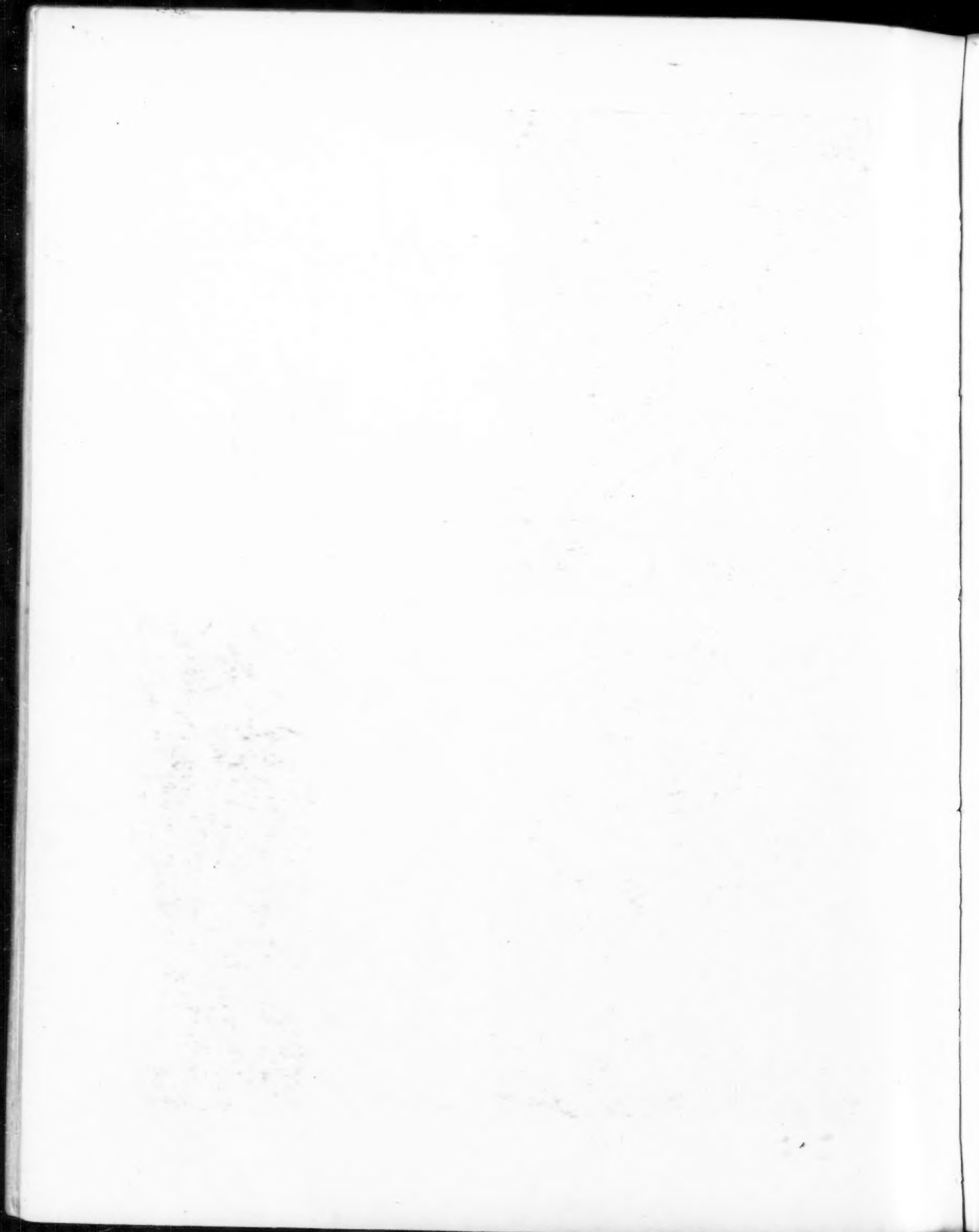


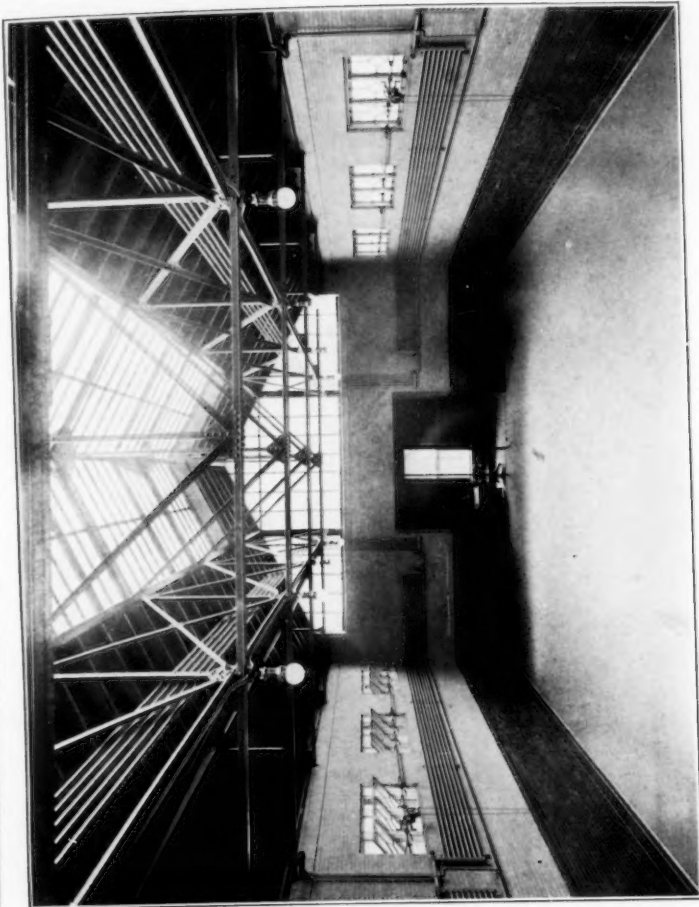


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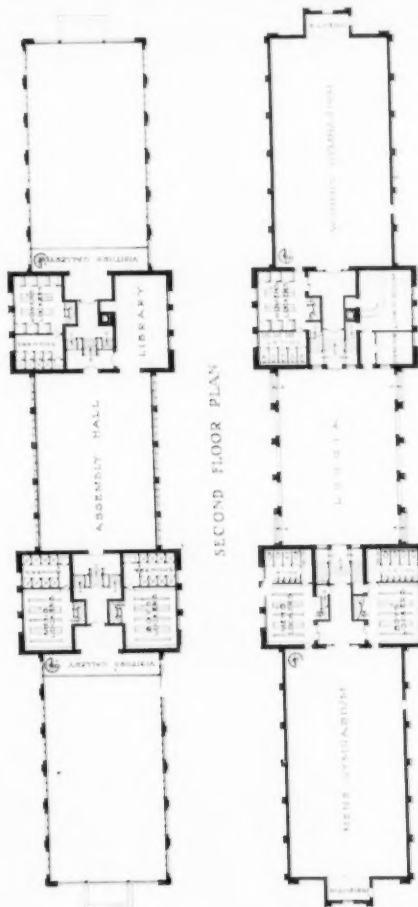




WOMEN'S GYMNASIUM



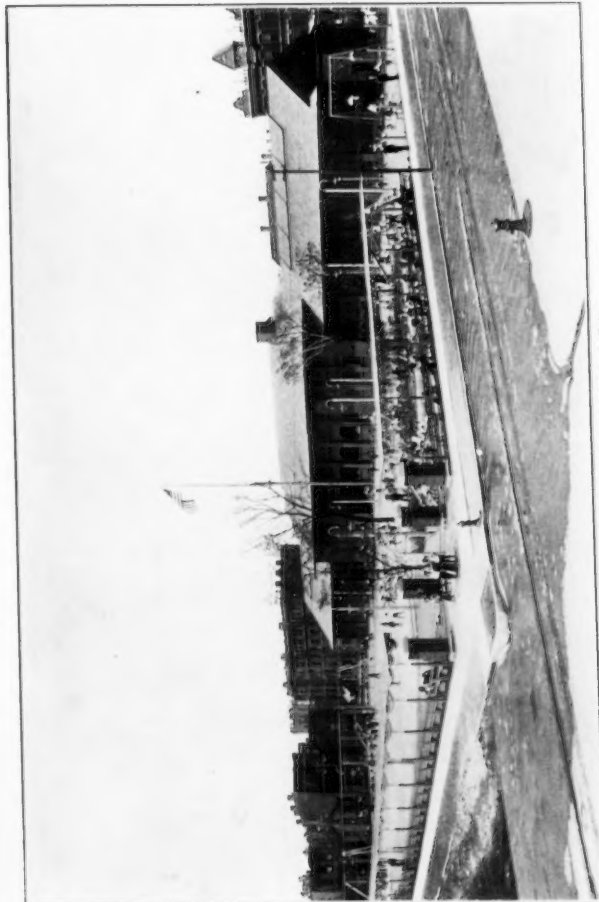
ASSEMBLY HALL



SECOND FLOOR PLAN

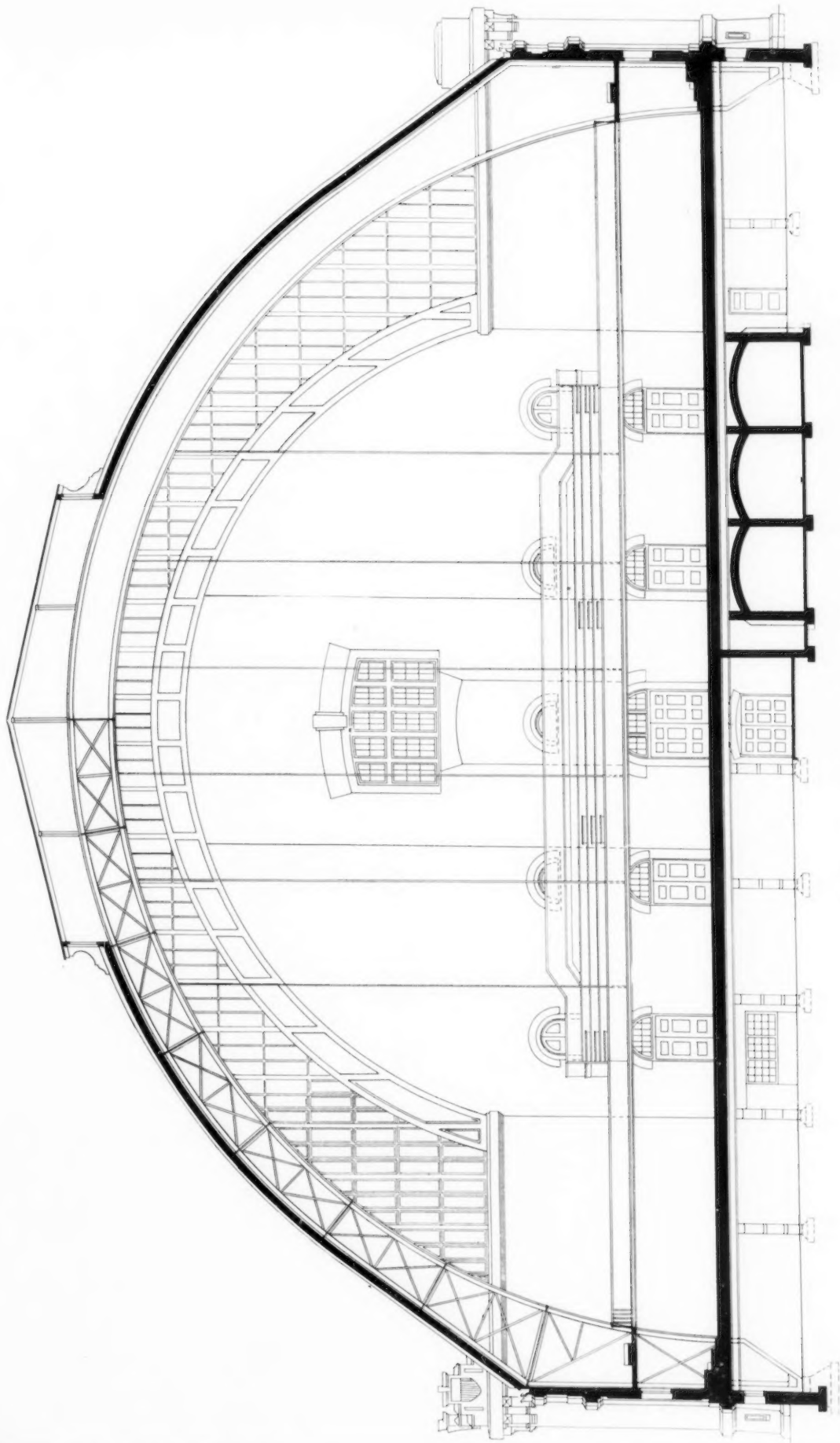
FIRST FLOOR PLAN

PARK BUILDING, SEWARD PARK, CHICAGO
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GENERAL VIEW OF SEWARD PARK





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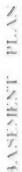
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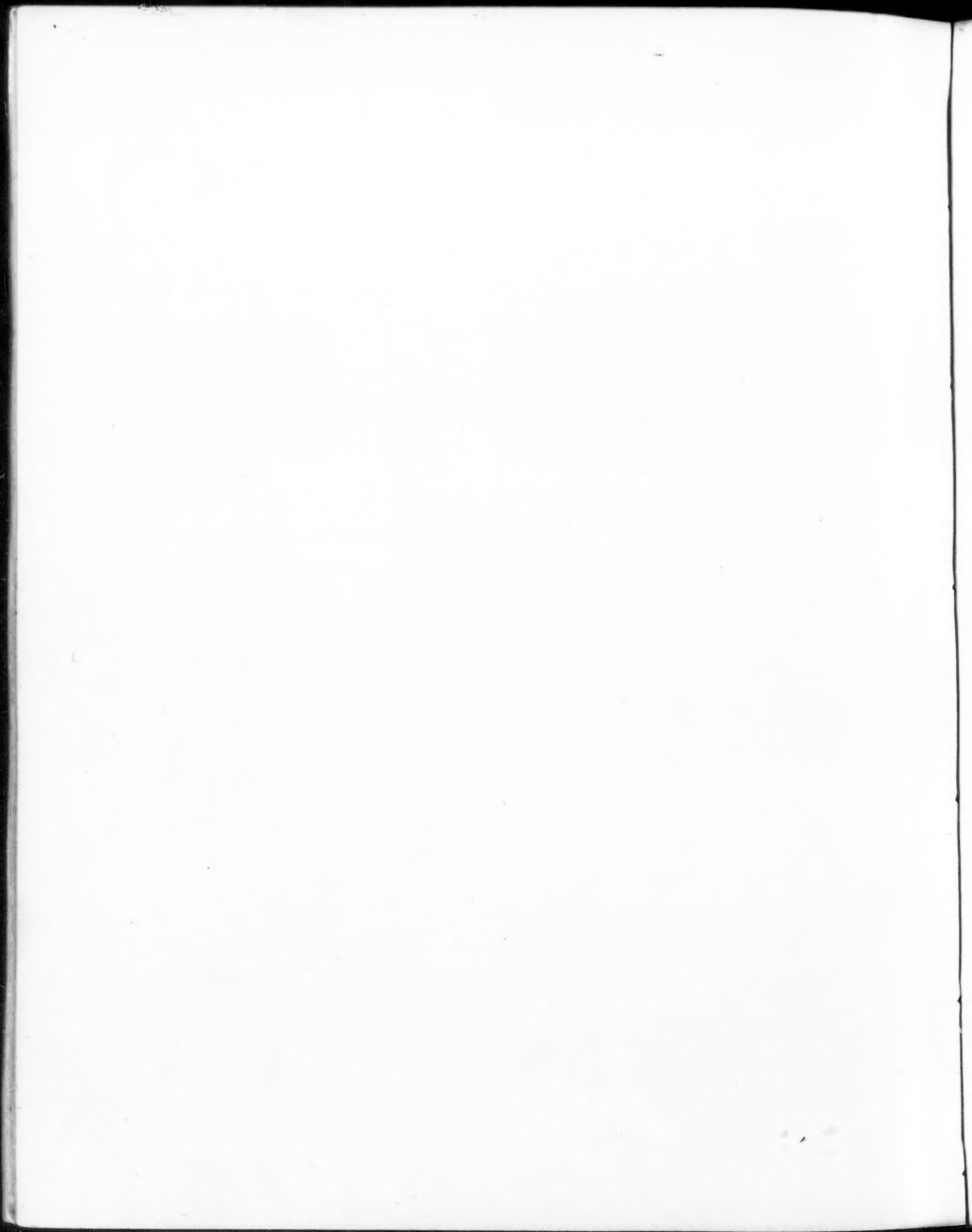
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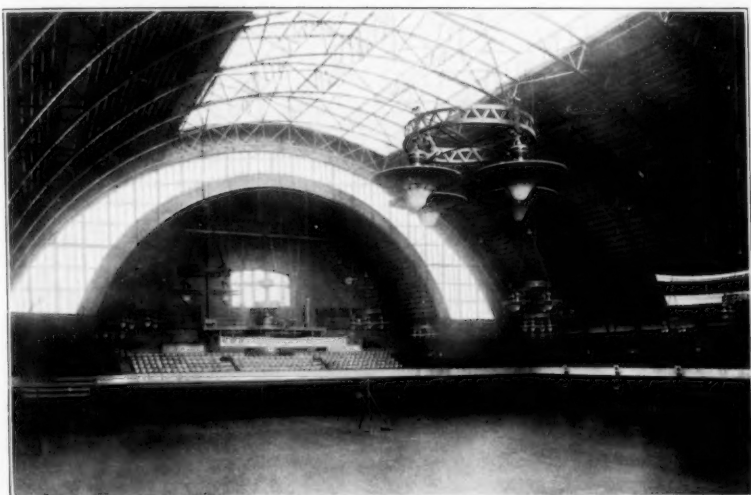
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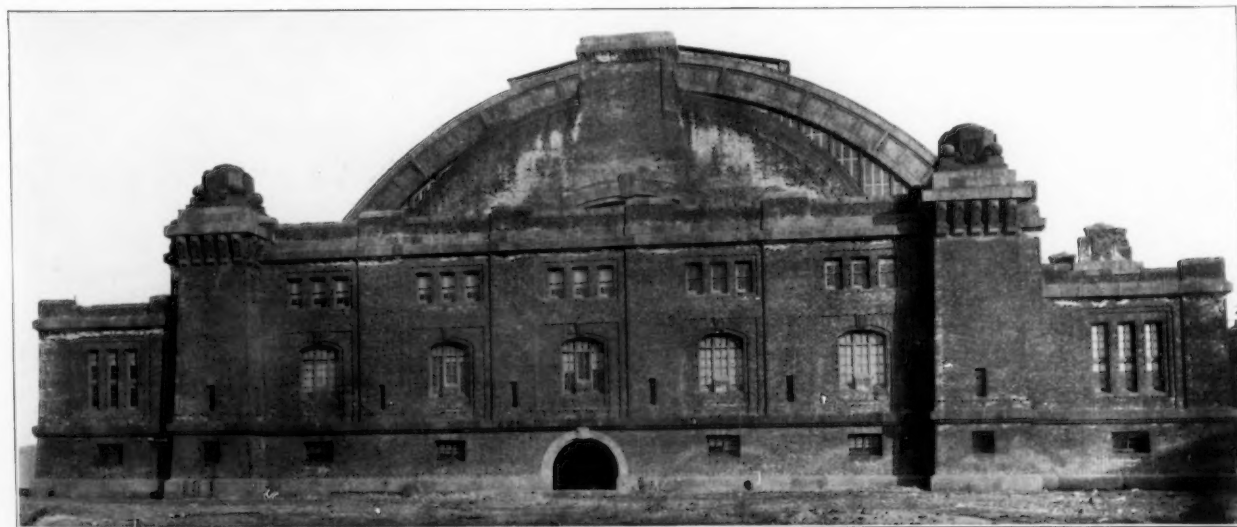




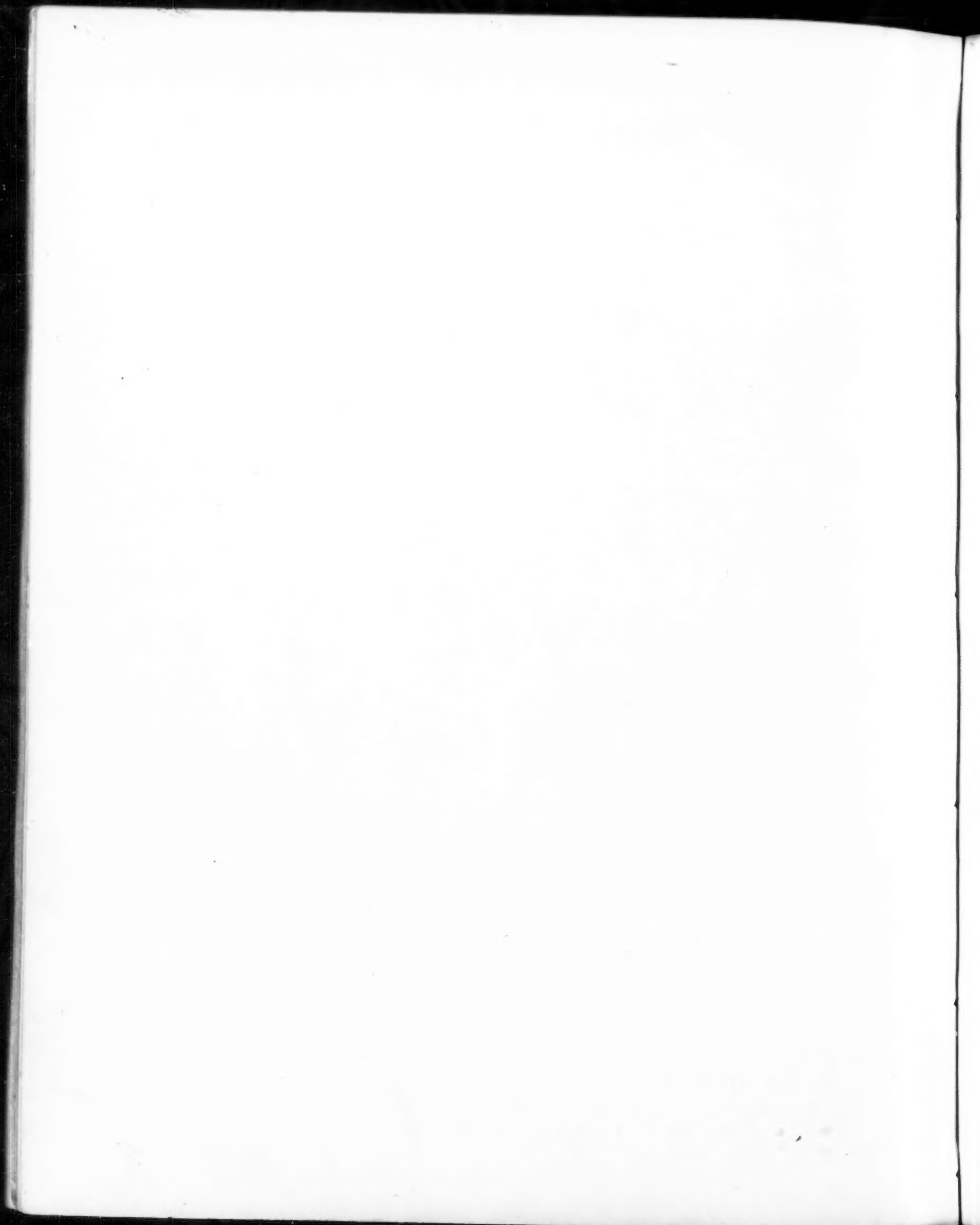
VIEW FROM STREET

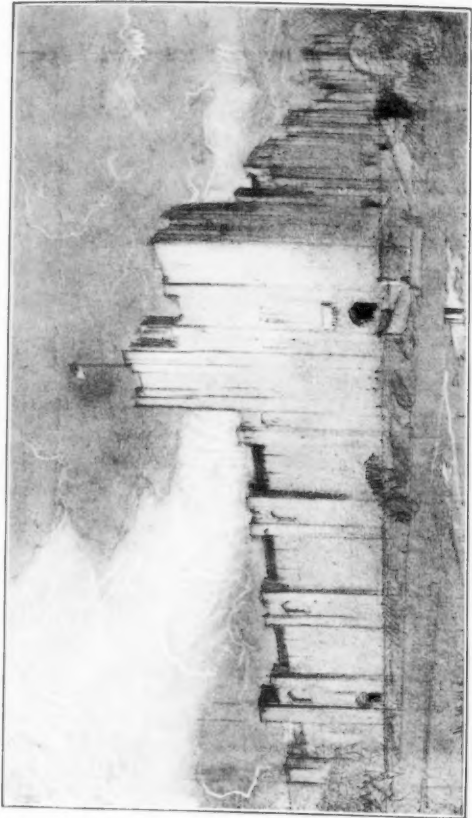


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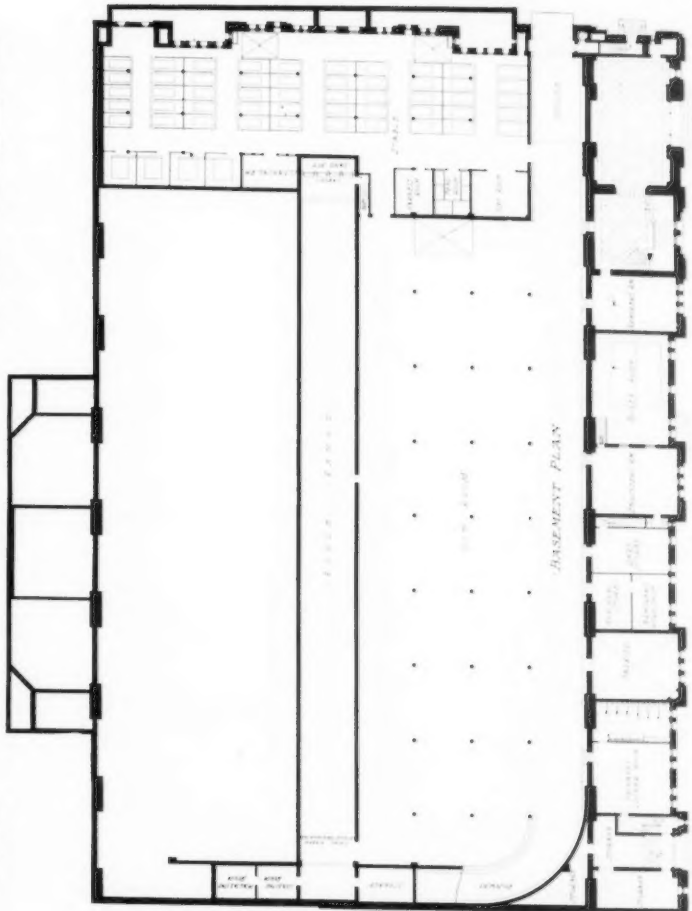
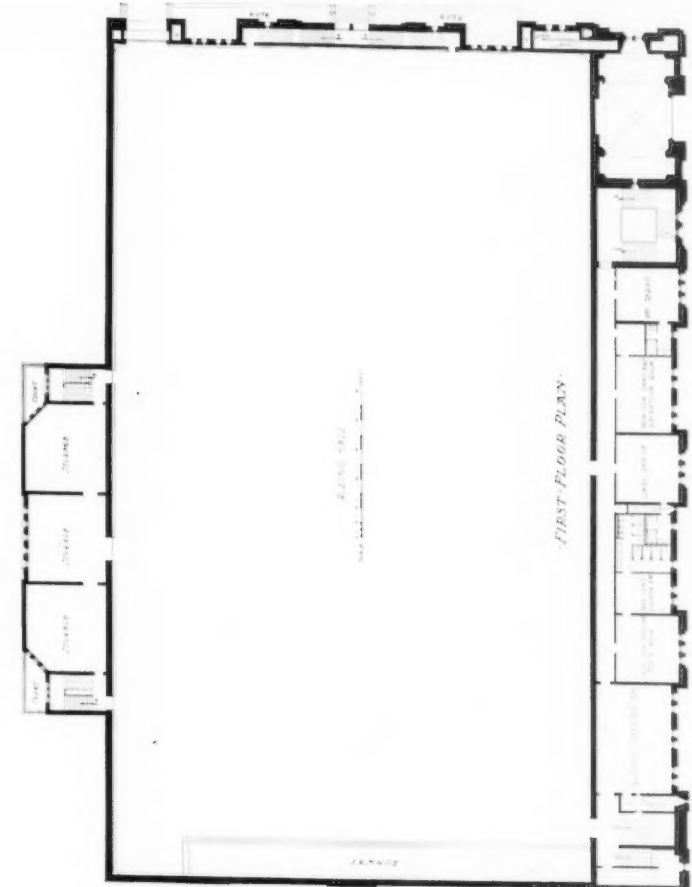
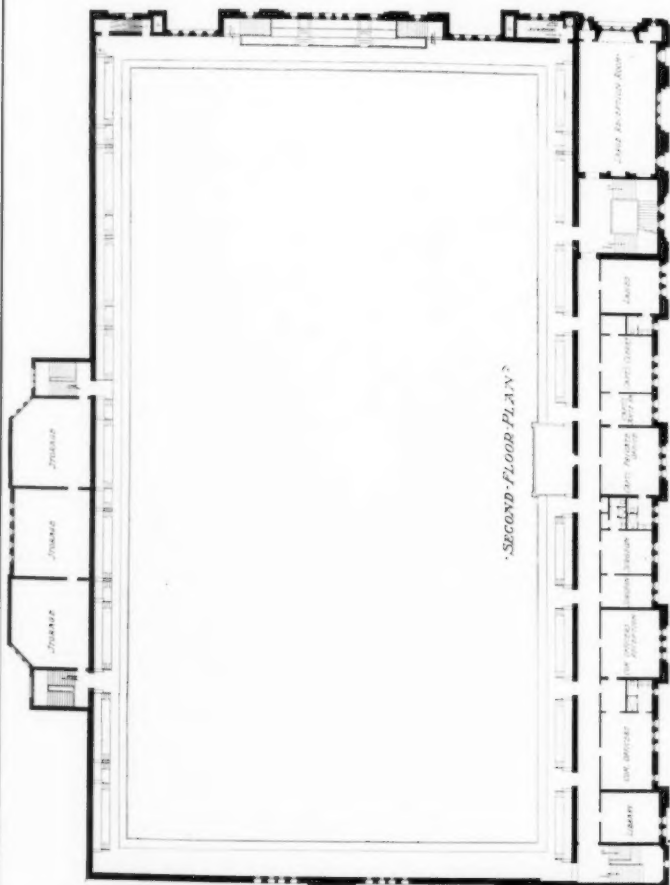


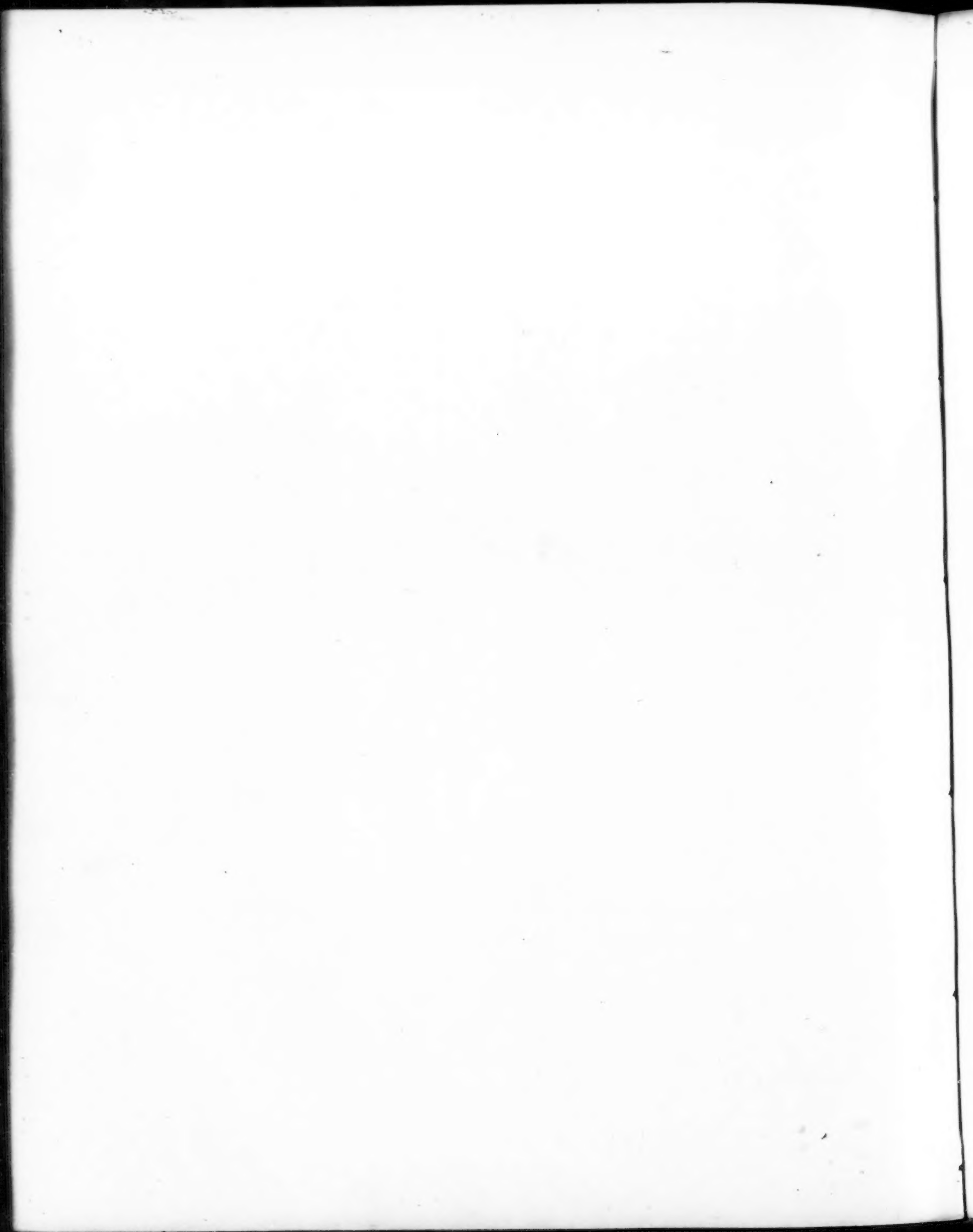
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